Yosemite National Park

National Park Service
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Tuolumne Wild and Scenic River
Comprehensive Management Plan

Record of Decision

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U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

RECORD OF DECISION

TUOLUMNE WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

Yosemite National Park, California

INTRODUCTION

The National Park Service (NPS) at Yosemite National Park has prepared this Record of Decision for the *Tuolumne Wild and Scenic River Final Comprehensive Management Plan and Environmental Impact Statement (Final Tuolumne River Plan/EIS)*. This document includes a brief description of the project background and objectives, a statement of the decision, a discussion of the basis for the decision, a summary of other alternatives considered, a description of the environmentally preferable alternative, a description of the measures that will be implemented to minimize or avoid environmental harm (Appendix A), and an overview of public involvement and agency consultation. Also attached, pursuant to the Wild and Scenic Rivers Act (WSRA), is the Section 7 determination of no direct and adverse effects on river values (Appendix B).

BACKGROUND

Congress designated 83 miles of the Tuolumne River as a Wild and Scenic River in 1984 (Public Law 98-425). The designation applies to the section of river extending from the headwaters in Yosemite National Park to the impoundment at Lake Don Pedro (excluding the 8-mile segment through Hetch Hetchy Reservoir), and includes lands managed by the NPS, U.S. Forest Service, and Bureau of Land Management. The NPS manages the 54 miles of the Tuolumne River in Yosemite National Park, including both the Dana and Lyell forks. The purpose of a Wild and Scenic River designation is to protect the free-flowing character, water quality, and outstandingly remarkable values of the river for the benefit and enjoyment of present and future generations.

The need for the *Final Tuolumne River Plan/EIS* ties directly to the WSRA, which requires a comprehensive management plan for each designated river. To satisfy WSRA requirements, the *Final Tuolumne River Plan/EIS* defines river boundaries and segment classifications; identifies actions needed to protect river values; determines the appropriate types and levels of development; establishes user capacities; and identifies the kinds and amounts of use that are appropriate for the river corridor and consistent with park mandates.

Work on this plan began in 2005, with public scoping held from June 27 to September 7, 2006. Completion of the plan was delayed several times by litigation on the management plan for the Merced Wild and Scenic River, which is also in Yosemite (see the Record of Decision for the Merced River Plan for more information). During plan development, a number of actions needed to improve the health of Tuolumne Meadows and to improve the visitor experience were identified but they could not be fully addressed pending the final plan and record of decision. The *Draft Tuolumne River Plan/EIS* was released in January 2013 for a 70-day public comment period.

The *Final Tuolumne River Plan/EIS* complies with WSRA requirements and is consistent with the Ninth Circuit Court's opinion on the Merced River Plan. The WSRA encourages agencies to incorporate management direction for the river into comprehensive resource management plans for the surrounding area. Accordingly,

the *Final Tuolumne River Plan/EIS* amends certain aspects of Yosemite National Park's 1980 *General Management Plan* (GMP). Specific changes to the GMP are identified in Appendix E of the *Final Tuolumne River Plan/EIS*.

DECISION (SELECTED ACTION)

Summary

As noted above, the *Final Tuolumne River Plan/EIS* has been over eight years in the making, delaying significant investments in infrastructure, visitor services, and ecological restoration in the Tuolumne River corridor. Substantial improvements in both the visitor experience and the natural environment can now be achieved. The NPS will implement Alternative 4, as presented in the February 2014 *Final Tuolumne River Plan/EIS*, as the Selected Action, with modifications to operational constraints on the Glen Aulin High Sierra Camp as discussed below.

Alternative 4 accommodates about 4,988 people at one time (4,727 day and overnight visitors and 261 administrative personnel) in the Tuolumne River corridor during periods of peak visitation. This is approximately the same level of use observed in recent years. The visitor experience will be enhanced by rehabilitating the Tuolumne Meadows campground, improving traffic circulation and access to recreational opportunities in the vicinity of Tuolumne Meadows, removing unsightly roadside parking, and improving the health and appearance of subalpine meadows. The Selected Action contains a comprehensive restoration program designed to enhance the river's outstandingly remarkable values and to ensure that they remain protected for future generations, including a rigorous program of monitoring and adaptive management. Overall, the scenic drive through the Tuolumne Meadows will be enhanced and those that partake in an extended stay will have ample opportunities to enjoy the river and its values without diminishing their integrity.

Under the Selected Action, Tuolumne Meadows will retain its overall rustic character with limited facilities and services. This peaceful setting will continue to serve as a destination for low-impact recreational activities such as hiking, camping, rock climbing, photography, and wildlife viewing. Backcountry enthusiasts will find excellent hiking and camping opportunities and continue to have the option of using the Glen Aulin High Sierra Camp as a part of the overall High Sierra Camp loop. Downstream of the O'Shaughnessy Dam, the Poopenaut Valley will continue to sustain a healthy low elevation meadow with low levels of human use.

Overall Goals for the Tuolumne River Plan

The overall goal for the *Final Tuolumne River Plan/EIS* is to provide for public use and enjoyment of the Tuolumne River while protecting and enhancing the values that led to its inclusion in the Wild and Scenic Rivers System. In accordance with Section 10(a) of the WSRA, more specific goals of the plan are to:

Protect and Enhance Ecological and Natural Resource River Values: Promote the ability of the Tuolumne River to shape the landscape by reducing impacts to hydrological/geological processes, restoring floodplains and meadows, and protecting water quality.

Provide Opportunities for Direct Connection to River Values: Support opportunities for people to experience and develop direct connections to the Tuolumne River and its unique values as a place of cultural association, education, recreation, reflection, and inspiration.

Establish a User Capacity Management Program: Establish a user capacity management program that provides for public use and enjoyment of the river resource while protecting and enhancing natural and cultural

river values today and into the future.

Determine Land Uses and Associated Developments: Provide clear direction on land uses, facilities, and services within the river corridor that are necessary for public use and provide for the protection of river values.

MANAGEMENT COMPONENTS

The following sections include a brief description of the primary management components that are included in the *Final Tuolumne River Plan/EIS* to meet the requirements of the WSRA. Volume and page numbers refer the reader to more detailed discussions of each topic within the *Final Tuolumne River Plan/EIS*.

Boundary Delineation (Volume 1, page 3-1)

The Wild and Scenic Rivers Act (WSRA) requires federal agencies to establish river corridor boundaries for each federally administered river in the Wild and Scenic Rivers System. In accordance with the WSRA (Section 3[b]), boundaries may include an average of not more than 320 acres of land per mile, measured from the ordinary high-water mark on both sides of the river.[1] The NPS used U.S. Geological Survey 7.5-inch topographic quadrangle data to calculate a Wild and Scenic River corridor boundary that encompasses all land within a quarter-mile of the ordinary high-water mark of the Tuolumne River, the maximum area allowed under the WSRA.[2] This includes the land below the ordinary high-water mark, which is not included in the acreage limitation. The NPS applied this boundary consistently to the Tuolumne River in Yosemite National Park, including the Dana Fork and the Lyell Fork.

As documented in the Draft and *Final Tuolumne River Plan/EIS*, a technical correction to river corridor boundaries was necessary, and this change is included in the Selected Action. In the 1979 study establishing eligibility for wild and scenic designation, the NPS and the U.S. Forest Service (USFS) identified two tributaries as the primary headwaters of the Tuolumne River: the Lyell Fork and the Dana Fork. The map accompanying the verbal description of the headwaters incorrectly illustrated the Dana Fork as descending from a location near the Tioga Pass entrance station; the Dana Fork actually originates between Mount Dana and Mount Gibbs. When Congress designated the Tuolumne River as a Wild and Scenic River in 1984, the enabling legislation referred to the 1979 eligibility study description and map for the location of the headwaters. The map error resulted in an unnamed tributary descending from Tioga Pass being incorrectly labeled as the headwaters of the Tuolumne River. Based on consultation with park hydrologists and members of the planning team from the original 1979 study, the Tuolumne River Plan includes a correction to the 1979 map and incorporates the proper Dana Fork headwaters into the wild and scenic river boundary. This headwaters section of the river corridor flows through congressionally designated wilderness and is assigned a wild classification for WSRA purposes.

The river corridor boundaries established in the *Final Tuolumne River Plan/EIS* are based on the existing river channel. Although the river is a dynamic natural system, the boundaries depicted in the *Final Tuolumne River Plan/EIS* maps will not be changed to account for every future fluctuation in the river channel. However, in the interest of allowing natural processes to prevail, the NPS will consider changing the delineation of river corridor

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1 The U.S. Army Corps of Engineers defines the ordinary high water mark as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

2 This acreage limitation does not constrain the protection of river values, which must be protected whether they are inside or outside the corridor boundary.

boundaries if there is a major shift in the river channel. Boundaries may also be redrawn if significant new information regarding the river channel becomes available and the NPS's ability to protect and enhance the outstandingly remarkable values is inhibited. If changes are deemed necessary, an environmental compliance process will be initiated (including future opportunities for public involvement) and the *Final Tuolumne River Plan/EIS* will be amended or updated as appropriate.

River Classifications (Volume 1, page 3-2)

The segment classifications (wild, scenic, or recreational) for the Tuolumne River are based on the level of development along the shorelines at the time of designation. Segments 1, 2, 5, and 7 (Lyell Fork, Upper Dana Fork, Grand Canyon, and Poopenaut Valley, respectively) are located within the Yosemite Wilderness, have little or no evidence of human development, and are classified as "wild" river segments. All other segments are largely primitive and undeveloped and accessible by road in some places (Segments 3, 4, and 6, Lower Dana Fork, Tuolumne Meadows, and Below O'Shaughnessy Dam) and are therefore classified as "scenic" segments. No segments within the Tuolumne river corridor are classified as recreational.

WSRA Section 7 Determination (Volume 1, page 4-1)

One of the policy objectives of the WSRA is to preserve rivers in a free-flowing condition, which is defined in the act as a river flowing in its natural condition without impoundment, diversion, straightening, rip-rapping, or other modifications of the waterway (16 USC Sections 1271 and 1286). To further this goal, the act includes a process for evaluating "water resources projects." Water resources projects, that is, those that are within the bed or banks of the Tuolumne River and that affect the river's free-flowing condition, are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC Section 1278). The NPS completed a Section 7 determination on proposed water resources projects to ensure that they do not directly and adversely affect the values for which the river was designated (Appendix B). The Selected Action includes a comprehensive process to ensure that all future water resources projects are in compliance with the Wild and Scenic Rivers Act, including actions proposed by the NPS or other agencies above or below the designated portion of the Tuolumne River or any of its tributaries.

Water resources projects found to have a direct and adverse effect on the values of this designated river will be redesigned and resubmitted for a subsequent Section 7 determination or abandoned. In the event that a project cannot be redesigned to avoid direct and adverse effects on the values for which the river was designated, the NPS will either abandon the project or will advise the Secretary of the Interior in writing and report to Congress in writing in accordance with Section 7(a) of the Act.

Outstandingly Remarkable Values (Volume 1, Chapter 5)

Before a river can be designated Wild and Scenic, it must meet certain requirements for eligibility. One of the primary criteria for eligibility is the presence of outstandingly remarkable values (ORVs), defined as those characteristics that make the river worthy of special protection. Such values can include scenery, recreation, fish and wildlife, geology, history, culture, and other similar values. The *Final Tuolumne River Plan/EIS* identifies the final ORVs for the Tuolumne River (Table 1) which have been refined through successive iterations of planning.[3] In addition to the ORVs, the NPS must protect the river's free-flowing condition and water quality. Throughout the plan, the ORVs, free-flow, and water quality are collectively referred to as "river

[3] See Volume 3: Appendix G of the *Final Tuolumne River Plan/EIS* for a summary of how the ORVs have evolved throughout the river planning process.

values." The plan includes a detailed assessment of the baseline condition for each river value, the associated management standard (where applicable) and a comprehensive monitoring and management program, which has been developed to manage river values to ensure that conditions remain at (or superior to) the management standard. For river values that are sensitive to visitor use, the monitoring program has been designed to maintain or improve existing conditions thereby preventing any river value from being adversely impacted or degraded. The monitoring program is an important component of the Selected Action and it is described in more detail in the *Final Tuolumne River Plan/EIS* (Chapter 5: River Values and Their Management).

TABLE 1: OUTSTANDINGLY REMARKABLE VALUES (ORVS) OF THE TUOLUMNE WILD AND SCENIC RIVER IN YOSEMITE

Outstandingly Remarkable Values of the Tuolumne Wild and Scenic River in Yosemite National Park
Biological ORVs
Lyell Fork, Upper Dana Fork, Lower Dana Fork, Tuolumne Meadows
1. In Tuolumne Meadows, Dana Meadows, and along the Lyell Fork, the Tuolumne River sustains one of the most extensive Sierra complexes of subalpine meadows and riparian habitats with relatively high biological integrity.
Poopenaut Valley
2. Poopenaut Valley contains a type of low-elevation riparian and wetland habitat that is rarely found in the Sierra.
Geologic ORV
Grand Canyon
3. Between Tuolumne Meadows and Pate Valley, the Tuolumne River demonstrates classic stairstep river morphology, repeatedly transitioning from calm stretches to spectacular cascades.
Cultural ORVs
All Wild and All Scenic Segments
4. The rich archeological landscape along the Tuolumne River reflects thousands of years of travel, settlement, and trade.
Tuolumne Meadows
5. Parsons Memorial Lodge, a National Historic Landmark sited near the Tuolumne River, commemorates the significance of this free-flowing segment of the river in inspiring conservation activism and protection of the natural world on a national scale.
Scenic ORVs
Lyell Fork
6. Lyell Canyon offers remarkable and varied views of lush meadows, a meandering river, a U-shaped glacially carved canyon, and surrounding peaks.
Upper Dana Fork, Lower Dana Fork, Tuolumne Meadows
7. Dana and Tuolumne Meadows offer dramatic views of a meandering river, adjacent meadows, glacially carved domes, and the Sierra Crest.
Grand Canyon
8. The Grand Canyon of the Tuolumne offers views of a deep, rugged canyon with vast escarpments of granite, hanging valleys, and tall cascades of falling water.
Recreational ORVs
Lower Dana Fork, Tuolumne Meadows
9. Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows is provided by the Tioga Road across the Sierra.
Lyell Fork, Upper Dana Fork, Grand Canyon, Poopenaut Valley
10. Wilderness travelers along the Tuolumne River engage in a variety of activities in an iconic High Sierra landscape, where opportunities for primitive or unconfined recreation, self-reliance, and solitude shape the experience.

Actions to Protect and Enhance River Values

The Selected Action will protect the Tuolumne River's unique natural and cultural values by restoring 171 acres of meadow and riparian habitat, primarily in the Tuolumne Meadows area. This program of ecological restoration will protect water quality, wildlife habitat, and scenic views from both the Tioga Road and from the river itself. Protection and enhancement of archeological sites and historic districts will give future generations the opportunity to understand and appreciate the rich history and cultural heritage associated with Tuolumne Meadows. Examples of how the Selected Action will protect and enhance river values include:

- Eliminating roadside parking and associated informal trails and trampled vegetation.
- Removing structures that are too close to the river or in wet areas, including all concessioner housing, 21 campsites in the campground, and the kitchen/dining hall at the lodge (pending identification of a suitable site in the lodge grounds).
- Restoring riparian vegetation along riverbanks, many of which are denuded or lack streamside habitat.
- Mitigating the effects of several Tioga Road culverts and the Great Sierra Wagon Road, which interfere with natural hydrologic processes.
- Mitigating the effects from stock use in Lyell Canyon, by establishing designated campsites with approved access routes, setting range readiness criteria for stock grazing, and implementing a grazing capacity of 167-249 stock nights per season, depending on rain and snowfall patterns.
- Continuing to work with the San Francisco Public Utilities Commission to establish scientifically informed dam release criteria that mimic natural hydrologic patterns.
- Directing visitor use away from sensitive archeological sites.

Actions to Improve the Visitor Experience

The Selected Action will provide visitors with an enhanced "sense of arrival" to Tuolumne Meadows by constructing a new visitor contact station adjacent to Tioga Road and directly across from the trailhead to Parsons Memorial Lodge. This trailhead provides access to the most popular day hike in the area, crossing the meadows and providing expansive views of the Cathedral Range. The Selected Action will improve the trail (which travels the course of the historic Great Sierra Wagon Road) by removing unnecessary parallel tracks, improving the setting for the historic roadway, and restoring the hydrology and wetland vegetation around the road. Families will enjoy significantly improved camping experiences at Tuolumne Meadows campground, with refurbished restrooms, roadways and campsites. Recreational activities such as hiking, climbing, and artistic pursuits will continue, and whitewater boaters will be able to float new and challenging river reaches through the Grand Canyon of the Tuolumne. Examples of how the Selected Action will improve the visitor experience include:

- The Tuolumne Meadows campground will be completely rehabilitated: all sites will be better delineated; roads in the campground will be resurfaced and improved; restrooms will be refurbished, with several new restrooms added to meet demand; and damaged and deteriorating picnic tables and fire pits will be replaced.

- The elimination of roadside parking will improve the scenic beauty of subalpine meadows. Small, parking lots will be added (in nearby screened upland areas) and some existing parking areas will be expanded to provide safe access to recreational opportunities that are in the immediate vicinity. Compared to the existing situation, the parking supply will increase slightly and be clearly identified and managed.
- As mentioned above, a new, centrally-located visitor contact station will be provided, with sufficient parking for day hikers wishing to access the trailhead to Parsons Memorial Lodge. The visitor contact station will offer the same modest services as the current visitor center. The existing visitor contact station will be converted to office space and the parking lot will be managed to support access to the Cathedral Lakes trailhead.
- Boating will be allowed on a regulated basis between Pothole Dome and Pate Valley. Use will be managed to stay within the current overnight wilderness quota.
- Additional picnicking opportunities will be provided at Lembert Dome and at the Tuolumne Meadows store and grill. The restrooms at Lembert Dome will be improved.
- The health and vibrancy of Tuolumne Meadows will be improved and maintained with a comprehensive suite of ecological restoration techniques and a rigorous monitoring and management program.
- During peak periods of use, more frequent shuttle service within the Tuolumne Meadows area will be provided, as well as additional transit runs connecting Yosemite Valley to Mammoth Lakes.
- The hiking experience in the vicinity of Tuolumne Meadows will be improved by eliminating commercial horseback day rides and reducing hiker/stock conflict on popular access routes.

OTHER ALTERNATIVES CONSIDERED

In addition to the Selected Action, the alternatives described below were presented in the *Final Tuolumne River Plan/EIS*. No changes to these alternatives have been made since that document was published.

No Action Alternative

Under the No Action Alternative, the NPS would not adopt a comprehensive management plan to protect and enhance river values or address user capacity and land use in the corridor. The No Action Alternative would not satisfy the legal requirement to adopt a valid comprehensive river management plan for the Tuolumne River corridor.

The river corridor would be one-quarter mile on either side of the ordinary high-water mark because the WSRA provides for these default boundaries in the absence of agency-designated boundaries. The segment classifications and outstandingly remarkable values would be the same as those in the 1984 USFS *Final Environmental Impact Statement and Study Report* establishing eligibility of the Tuolumne River for Wild and Scenic River designation. There would be limited opportunities to enhance or improve upon ORV condition, no Section 7 determination process, and no technical correction to the river corridor boundary.

Ecological restoration actions would be limited to those that could be completed with a categorical exclusion in compliance with the National Environmental Policy Act (NEPA). There would be no changes to existing facilities, transportation systems, or services and no established limit to the number of visitors or vehicles that would be allowed within the corridor. Parking would not be delineated and roadside parking would likely persist

and potentially expand, further encroaching on sensitive meadow habitat.

Alternative 1: Emphasizing a Self-Reliant Experience

Alternative 1 would restore conditions for primitive, unconfined recreation and an undeveloped natural area to much of Tuolumne Meadows and Glen Aulin. Management actions in alternative 1 included:

- Remove Tuolumne Meadows Lodge, the Tuolumne Meadows store and grill, and the public fuel station/mountaineering shop.
- Reduce the size of the campground from 329 to 267 drive-in sites and 7 group sites.
- Eliminate all roadside parking.
- Reduce visitor use capacity to a maximum of 3,215 people at one time.
- Relocate and combine the visitor center function with the wilderness center; repurpose the existing visitor center to office space.
- Limit water withdrawals from the Dana Fork to an average of 30,000 gallons per day, with incidental peak use of up to 44,000 gallons per day.
- Replace the wastewater treatment plant with a modern facility in the same location and restore the evaporation ponds and sprayfield to natural conditions, as technology becomes available.
- Demolish the Glen Aulin High Sierra Camp (within a potential wilderness addition) and restore the area to natural conditions.
- Discontinue commercial horseback day rides.

Alternative 2: Expanding Recreational Opportunities

Alternative 2 responded to those members of the public who expressed a desire for higher visitation levels and more recreational opportunities. Management actions in alternative 2 included:

- Retain Tuolumne Meadows Lodge, the Tuolumne Meadows store and grill, and the public fuel station; remove the mountaineering shop.
- Increase the size of the campground to 370 drive-in sites and 7 group sites.
- Eliminate all roadside parking and delineate an additional 302 parking spaces in appropriate locations to provide a total of 982 designated parking spaces (in addition to those at the campground).
- Allow visitor use to increase to a maximum of 5,051 people at one time.
- Construct a new visitor center near the Tuolumne Meadows store and grill
- Limit water withdrawals from the Dana Fork to an average of 50,000 gallons per day, with incidental peak use of up to 65,000 gallons per day.
- Replace the wastewater treatment plant with a modern facility in the same location and restore the evaporation ponds and sprayfield to natural conditions, as technology becomes available.
- Convert the Glen Aulin High Sierra Camp to a seasonal outfitter camp with tents for 32 people.
- Discontinue the 4- and 8-hour commercial horseback day rides and one of the three 2-hour rides.
- Allow regulated whitewater boating in the Grand Canyon of the Tuolumne.

Alternative 3: Celebrating the Tuolumne Cultural Heritage

Alternative 3 responded to those members of the public who have strong traditional ties to the Tuolumne River corridor and who expressed a desire to see the area remain unchanged. Management actions in alternative 3 included:

- Downsize Tuolumne Meadows Lodge by half, retain the Tuolumne Meadows store and grill, and eliminate the public fuel station and mountaineering shop.
- Retain the campground at its existing size of 329 drive-in sites and 7 group sites.
- Eliminate all roadside parking and delineate an additional 170 parking spaces in appropriate locations to provide a total of 813 designated parking spaces (in addition to those at the campground).
- Reduce visitor use capacity to a maximum of 4,315 people at one time (-7%).
- Limit water withdrawals from the Dana Fork to an average of 42,000 gallons per day, with incidental peak use of up to 61,000 gallons per day.
- Replace the wastewater treatment plant with a modern facility in the same location and restore the evaporation ponds and sprayfield to natural conditions, as technology becomes available.
- Downsize the Glen Aulin High Sierra Camp to 28 beds (-12%).
- Discontinue the 4- and 8-hour commercial horseback day rides and one of the three 2-hour rides.

PRELIMINARY OPTIONS CONSIDERED BUT DISMISSED

Federal agencies are required to rigorously explore and objectively evaluate a reasonable range of alternatives and briefly discuss the reasons for eliminating any alternative that is dismissed from further analysis (40 CFR 1502.14). As described in the *Draft Tuolumne River Plan/EIS* (Chapter 2: Purpose of and Need for the Tuolumne River Plan), the scoping process for the plan sought to understand and consider input from the public, NPS staff, subject-matter experts, traditionally associated American Indian tribes and groups, and other federal, state, and local agencies as part of an extensive planning process for the *Draft Tuolumne River Plan/EIS*.

The *Draft Tuolumne River Plan/EIS* (Chapter 8: Alternatives for River Management) summarizes the suggestions that were considered but dismissed. These included both individual actions and major themes for an alternative that were:

- Already decided by law, regulation, or other higher-level decision
- Not relevant to the decision to be made
- Missing a valid cause and effect relationship
- Associated with small effects relative to the decision to be made
- Conjectural and not supported by scientific or factual evidence
- Unreasonable or infeasible because they would be cost prohibitive, violate law or policy, or contribute to other resource concerns or hazards
- Inconsistent with the protection of the free-flowing condition, water quality and outstandingly remarkable values of the Tuolumne River

As described in the *Final Tuolumne River Plan/EIS*, the following general concepts were initially considered for an alternative (or inclusion as a component of an alternative), but were dismissed from full analysis in the *Draft Tuolumne River Plan/EIS*. Although not included in the Selected Action, it should be noted that these actions could be considered in the future if warranted by changing circumstances. Any such reconsideration would be subject to additional compliance, with opportunities for public review before implementation.

Keep Tioga Road Open Year-Round

From roughly November to late May or early June, the Tioga Road is closed due to snow and icy conditions. Alternatives that would keep the road open during winter were not considered feasible because the road is not engineered for year-round use. In many years, the avalanche control work that could be completed safely on both the Tioga Road and Highway 120 East to Lee Vining would not be adequate to mitigate hazards to public and park staff. In addition, the administrative facilities along the road are not sufficient to support substantial road clearing operations and visitor protection activities. Costs and resource impacts associated with reengineering and maintaining the road for year-round access would be substantial. Finally, the wilderness boundary poses a constraint on any potential reengineering of the road.

Closing Tioga Road in the winter does not adversely affect the outstandingly remarkable recreational value of the Tuolumne River. During this time, the recreational value of the Tuolumne Meadows and Lower Dana Forks segments shifts from river access via Tioga Road to a wilderness experience along the river. The snow season is a quiet time to enjoy solitude in the raw elements of winter.

Realign or Eliminate Tioga Road through the Tuolumne Meadows Area

Closing the Tioga Road through the Tuolumne Meadows area was not considered a reasonable alternative. The Tioga Road is one of the few east-west trans-Sierra highways, and its closure would significantly affect regional summer and fall travel patterns across the Sierra. The nearest east-west corridor to the north is along the Sonora Pass (Highway 108); the nearest southerly route is over Walker Pass on California State Highway 178.

Realignment of the road away from the river corridor through Tuolumne Meadows was considered during the early phases of planning. However, a study conducted for the NPS aimed at assessing the effects of the Tioga Road on the hydrologic processes in Tuolumne Meadows (Cooper et al. 2006) found that the Tioga Road does not appear to affect hydrologic conditions in Tuolumne Meadows except in localized areas. Culverts beneath the road channelize water during periods of high spring runoff, thereby creating localized variation in meadow hydrology but not changing the amount of surface water or groundwater recharge from what would occur if the road was not there. The role of the road appears to be minimal with respect to conifer encroachment. Consequently, road realignment is not necessary to enhance or protect river-related ecological values.

Relocate Park Operations and Housing Functions to Lee Vining

The NPS considered the feasibility of relocating some park operations functions (including a maintenance yard and stable), some administrative offices, and some employee housing to an Inyo National Forest administrative site (in Lee Vining Canyon), where they could be co-located with similar USFS functions.

After some analysis, the NPS determined that it would not be cost-effective to spend limited public funds to relocate seasonal facilities to Lee Vining, where they could only be used three or four months out of the year by Yosemite National Park staff (the Tioga Road is closed in the winter).

Furthermore, the NPS determined that a certain amount of employee housing and maintenance and

administrative facilities are necessary at Tuolumne Meadows to effectively and efficiently support resource management and visitor use. Necessary facilities were identified for each alternative based on user capacity and the level of resource management and visitor use management needed to implement the alternative.

Although some employees could be housed off site if alternative housing was available (which it currently is not), many employees are considered "required occupants" who must be housed on site to respond to visitor and resource safety and operational emergencies. Maintenance functions requiring rapid response or large equipment would be greatly hampered by the need to travel from Lee Vining Canyon. The NPS also determined that relocating the stables to Lee Vining Canyon would increase concerns for employee safety due to frequent trailering of pack stock in support of routine ranger patrols and maintenance.

For these reasons, the NPS determined that park operations, administrative offices, and housing would be retained in the Tuolumne Meadows area rather than developing a new administrative site on Inyo National Forest land in Lee Vining Canyon.

Relocate Wastewater Treatment Plant to Site of Existing Ponds and Sprayfields

Relocating the wastewater treatment plant to the north side of the river (near the existing wastewater ponds and sprayfields) was considered but dismissed for several reasons:

- Conveying the wastewater to this location would require either continuing use of the existing force main (line) under Tuolumne Meadows, or constructing a new line from the Lembert Dome parking lot west along the gravel road to the ponds. The route across the meadow is undesirable because potential failure of the line could impact water quality (although the line is currently in good condition) as well as the outstandingly remarkable biological value of Tuolumne Meadows. A new wastewater line along the gravel road could disturb known archeological sites in the area, potentially impacting these outstandingly remarkable cultural values. The same line could also impact the outstandingly remarkable biological value of Tuolumne Meadows because the gravel road cuts across portions of those meadows and a new wastewater line could disrupt groundwater flow into the meadows. Construction of the line would also pose a threat of disturbance to the mineral spring habitat at Soda Springs. While this habitat is not an outstandingly remarkable value, it is home to several rare plants.
- Building the wastewater treatment plant in this area would either mean that all untreated wastewater would use the existing force main (line) under Tuolumne Meadows, or that the flow from the campground, Road Camp, the store/grill area, and the visitor center would have to be reversed, to move east and cross the river under the Tioga Road bridge, before it then turned northwest to flow in a new main that would be built along the dirt road to the wastewater ponds. Either option would effectively quadruple the amount of untreated wastewater passing under the river, given that at least four times as many people stay overnight at the campground or use the flush toilets at the visitor center and grill as stay at the lodge and in the Ranger and Bug Camp housing areas. The larger flow would increase the risk, while minor, of contaminating the Tuolumne River, compared to the existing situation.
- Reconstruction of the wastewater plant at the existing wastewater treatment plant site will involve upgrading to tertiary treatment. The product of a tertiary plant is often drinkable; thus, the risk to contaminating the Tuolumne River water from the force main under the meadow will be eliminated. Retaining the wastewater treatment operation on the south side of the road, where the existing plant is currently located, effectively minimizes the risk to water quality, given the geography of Tuolumne Meadows development and the fact that the upgraded plant will produce water of drinkable or near-

drinkable quality.

- The existing wastewater ponds are visible from Lembert Dome. Constructing an entirely new wastewater treatment plant at this location would constitute an unacceptable new intrusion into the area's scenic views and the outstandingly remarkable scenic value of the river.
- The wilderness boundary was drawn very close to the existing ponds and sprayfields, leaving little room for new construction. It would be difficult to site a full treatment plant in the vicinity of the ponds without broaching the wilderness boundary.

In conclusion, relocating the wastewater treatment plant to the site of the existing ponds and sprayfields was dismissed because it could impact outstandingly remarkable values, encroach upon the wilderness boundary, would increase the risk to water quality, could harm sensitive plant habitat, and would present a new incursion into the scenic integrity of Tuolumne Meadows. Furthermore, concerns about pumping wastewater beneath the river from the existing plant site on the south side of the road to the containment ponds on the north side would essentially be eliminated by upgrading to a tertiary treatment facility.

Relocate Visitor Services to a Site in the Tuolumne Meadows Area Outside of the River Corridor

The potential for relocating the facilities necessary for visitor use to areas outside the river corridor is limited by the boundaries of the Yosemite Wilderness, which generally overlap into the scenic segments of the corridor. Changing the wilderness boundary would require an act of Congress and is considered infeasible for the purposes and timeframe of this plan. The site most suitable for development that is both outside the river corridor and designated wilderness is currently occupied by the campground B–G loops. The option of locating a visitor contact station and possibly a store and grill at the site currently occupied by the campground D loop was considered but dismissed because of the potential for impacts on Unicorn Creek and adjacent wetlands, and because of the number of campsites that would have to be either eliminated or redistributed to other campground locations. Redistributing these sites was dismissed because it would not be cost-effective and it would increase the site density within the campground.

Replace the Tuolumne Meadows Lodge with a More Permanent Facility

Replacing the Tuolumne Meadows Lodge with a larger and more permanent facility was not considered reasonable for several reasons:

Any new construction in a wild and scenic river corridor must be necessary for visitor use or resource protection and infeasible to locate outside the river corridor. A new lodge is not necessary, given the presence of the existing Tuolumne Meadows Lodge, which is functional and appealing to many.

A new lodge could result in adverse effects on the Tuolumne Meadows Historic District. The Tuolumne Meadows Lodge and High Sierra Camp was recommended eligible for listing on the National Register of Historic Places as a historic district in 1989 and 2004 (Kirk and Palmer 2004). The building and structures are designed to be as simple as possible, with no architectural ornamentation. The most distinctive feature of the area (established in 1916) is the village-like clustering. Replacing part of the lodge (for example, half the tent cabins) with a new lodge would affect the rustic, village-like character of the lodge.

If a new lodge included rooms with private baths (as it most likely would because such rooms are the norm in contemporary hotel construction), water withdrawals from the Dana Fork would likely increase. As noted in the *Final Tuolumne River Plan/EIS* (Chapter 5: River Values and Their Management) water withdrawals from the Dana Fork are already near capacity, given the desired condition to be maintained for this river value.

A persistent theme in public scoping was to keep the development in Tuolumne Meadows like it is now: rustic. Commenters were mostly opposed to the idea of building a modern new lodge in the area.

Finally, the cost of constructing a new lodge at Tuolumne Meadows would be quite high due to the area's remoteness and heavy snow loads. Such costs would be passed along to the visitor, thereby resulting in considerably higher lodging costs. Providing affordable lodging is a common request heard in public comments in Yosemite; a new lodge would not address this concern.

In conclusion, based on the WSRA, interests and concerns raised during scoping, resource concerns, and high construction costs, the idea of constructing a new, permanent lodge at Tuolumne Meadows was dismissed from further consideration.

Increase Use Beyond the Level Considered in Alternative 2

A user capacity even higher than that considered in alternative 2 was considered but rejected for several reasons.

First, the maximum water withdrawals from the Dana Fork have, on one or two days in several of the past five years, already exceeded the management standard. As a result, it is anticipated that alternative 2 would require strict water conservation measures to avoid exceeding these maximum withdrawals more frequently. Even with the water conservation measures included in all the action alternatives, a user capacity above what is proposed in alternative 2 may eventually demand more water from the Dana Fork than the river could provide without affecting the river's free-flowing character. The situation would be exacerbated if global climate change caused a reduction in the duration or intensity of low river flows.

Additionally, the parking and infrastructure necessary for additional use would be difficult to construct without affecting the scenic or subalpine meadow and riparian values of the river corridor. Given the proximity of the wilderness boundary to the road and meadows, there is not enough space to construct parking lots much larger than those proposed in alternative 2.

For these reasons, the idea of accommodating a higher user capacity than what is proposed in alternative 2 was dismissed from further consideration.

BASIS FOR DECISION

Overview

All of the action alternatives presented in the *Final Tuolumne River Plan/EIS* were designed to meet the requirements for a comprehensive management plan under the WSRA. Accordingly, each alternative addressed resource protection, development of lands and facilities, and user capacities. The cornerstone of each action alternatives is a comprehensive restoration, monitoring, and management program. The program was designed explicitly to ensure that the kinds and amounts of public use accommodated will not adversely impact or degrade river values. Given this foundational element, the NPS further developed the alternatives to encompass a range of visitor experiences, each consistent with the protection of river values.

The action alternatives varied in the kinds and amounts of public use accommodated, the type and location of infrastructure needed to support that use, and the mechanisms used to regulate and manage visitor activity. Considerations about public use include determining the amount of access to provide, allocating the limited space available in Tuolumne Meadows across competing land uses, and determining whether there is adequate drinking water for such uses. Finally, a plan must be realistic and achievable and the cost of implementing the alternatives

was carefully considered in this decision by evaluating the overall public benefit to be achieved with different levels of investment.

After reviewing the foreseeable environmental impacts of each alternative, the purpose and need for action, and all public and agency comments (including comments on the *Draft Tuolumne River Plan/EIS*), alternative 4 (with four modifications) is the Selected Action. This alternative best complies with the WSRA, the Wilderness Act, NPS management policies, the legislated purpose of Yosemite National Park, and the statutory mission of the park to provide lasting protection for the natural and cultural treasures of Yosemite National Park while allowing for visitor use and enjoyment.

Legal Framework

The *Final Tuolumne River Plan/EIS* was developed within a complex legal framework. The WSRA states that the NPS shall administer rivers within its jurisdiction in accordance with the laws under which the National Park System is managed (16 U.S.C. Section 1281(c)). For rivers flowing through wilderness areas, the act also requires compliance with the 1964 Wilderness Act (16 U.S.C. Section 1281(b)). For either situation, in the case of conflict, the more restrictive law is to apply.

The Wild and Scenic Rivers Act encourages agencies to incorporate management direction for the river into comprehensive resource management plans for the surrounding area. The Tuolumne River Plan amends several aspects of Yosemite National Park's 1980 *General Management Plan* (1980 GMP) to ensure consistency with wild and scenic river management requirements

The 1980 GMP reflects the mandate of the National Park Service Organic Act, which applies to all units of the National Park System. The Organic Act established the NPS to "promote and regulate the use of parks." The Organic Act defined the purpose of the national parks as "to conserve the scenery and natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The Organic Act provides overall guidance for the management of Yosemite National Park, and the broad goals of the 1980 GMP remain valid today.

In reaching a decision on the Selected Action, the NPS considered and complied with the multiple laws and policies that apply to lands within the river corridor, such as the WSRA, the NPS Organic Act, the Wilderness Act, and the 1980 GMP. The NPS also carefully considered the substantial body of public comments received during the planning process.

Protecting and Enhancing River Values

As with all action alternatives, the Selected Action will protect and enhance the free-flowing condition, water quality, and outstandingly remarkable values of the Tuolumne River. Research conducted specifically for the *Final Tuolumne River Plan/EIS* supports the NPS conclusion that no river values are presently being adversely impacted or degraded on a segment-wide basis; localized impacts are recognized and directly addressed by the Selected Action. A comprehensive ecological restoration program has been included to restore the processes that sustain a naturally functioning meadow ecosystem. The plan also establishes a 150-foot riparian buffer as a setback for new development to reduce the potential for future riverbank erosion and sediment.

To ensure that river values remain protected, the Selected Action establishes a set of measureable indicators to evaluate the condition of all river values that are sensitive to existing and proposed human use within the river corridor. Indicators were selected for their ability to provide insight into the integrity of the river value and provide early warning of change. A management standard is assigned to each indicator, representing the desired condition for the river value, given current trends and influences beyond the control of the NPS. The

same set of indicators is used to define the conditions associated with adverse impact and degradation. Relative to the condition represented by the management standard, the conditions of adverse impact and degradation represent a significant and sustained decline in the quality of the river value that is causing "substantial interference" with the public use and enjoyment of that value. Proactive management of river values to meet (or exceed) the management standard will ensure that such conditions will be avoided.

All river values are currently in a condition that is better than that required by the associated management standard, with the exception of the subalpine meadow and riparian complex. This ORV currently exhibits management concerns, including a high level of fragmentation and low streambank stability measures. These concerns are addressed under all action alternatives with the actions specified in the comprehensive ecological restoration program presented in Appendix H of the *Final Tuolumne River Plan/EIS*. Through a combination of restorative actions (e.g. willow plantings) and restrictive actions (e.g. informal trail closures), the restoration program will set the stage for natural forces to bring these meadows back to health.

Proactive resource management is at the heart of the monitoring program included in the *Final Tuolumne River Plan/EIS*. In most cases at least one (and often more than one) measurable "trigger point" has been established to identify when and what type of management intervention is needed to ensure that conditions remain at (or exceed) the management standard. The trigger points provide an early warning of declining conditions and are paired with a list of management actions that must be implemented to arrest the trend. These actions are mandatory and have been designed to identify the forces driving the changes observed and respond with course-corrections at the earliest possible opportunity. In this way, the *Final Tuolumne River Plan/EIS* contains an active and aggressive program of river protection that responds to incremental change instead of waiting to repair the cumulative effects of unmitigated impacts with the attendant threat of adverse impact or degradation.

The action alternatives in the *Final Tuolumne River Plan/EIS* varied primarily with regard to the amount of visitor use specified, along with the amount and location of infrastructure, and the level of meadow restoration provided. At a minimum, all action alternatives would restore 167 acres of meadows and riparian areas and the Selected Action restores an additional 3.6 acres. Alternative 1 would remove all lodging in the river corridor (both Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp) and the entire A-loop in the campground, allowing for the largest amount of acreage to be reclaimed (207.9 acres). Alternative 3 would restore slightly more disturbed area than the Selected Action, mostly attributable to the removal of half of the existing units at Tuolumne Meadows Lodge (discussed below). The changes in accommodations and associated parking in alternatives 1-3 would reduce public access to Tuolumne Meadows and are not essential for the protection of river values.

Actions related to the Glen Aulin High Sierra Camp also varied across the alternatives. Under the Selected Action, stock use will generally be restricted to five resupply pack strings per week (a slight modification to the use level proposed in alternative 4). No more than ten strings will be used for camp set- up and nine strings for camp demobilization. Water use will be limited to no more than 500 gallons of drinking water per day and the size of the camp will be reduced from 32 to 28 guest beds. These restrictions will reduce conflicts between packstock and hikers on the Glen Aulin Trail and allow the wastewater mound to function properly. As presented in the *Final Tuolumne River Plan/FEIS*, alternative 4 envisioned eliminating the temporary water line used to provide a water supply for the Glen Aulin High Sierra Camp during periods of low flows. The Selected Action modifies alternative 4 to allow the temporary water line to continue to be used during periods of low flow until other methods of waters sourcing (such as a microhydro facility) are tested and determined to be feasible.

Alternative 1 would remove the Glen Aulin High Sierra Camp entirely while alternative 2 would convert it to a temporary outfitter camp; both would render this potential wilderness addition suitable for wilderness designation. Alternative 3 would downsize the camp to 28 beds without imposing the packstock and water restrictions included in the Selected Action.

The Selected Action addresses the need for ecological restoration at Tuolumne Meadows and reduces the impacts of the Glen Aulin High Sierra Camp while providing for continued access to both. Ecological restoration is accomplished and an enhanced recreational experience is provided while largely maintaining traditional recreational experiences.

Traditional Family Experiences in a Rustic Setting

Early in the planning process, several themes emerged from engagement with the public. From this feedback, it is clear that people feel a strong, generational connection to Tuolumne Meadows. They enjoy shared family activities, such as camping, hiking, and relaxing by the river—all of them rustic in nature. These activities in turn generate life-long memories, traditions, and attachments to specific locations within the Tuolumne River corridor. This connection also includes the traditional and cultural association of American Indian tribes and groups with the Tuolumne River and its resources, and the rich history of human influence throughout the corridor. This cultural connection runs deep and is shared by many. Indeed, a resounding theme throughout the eight years of this plan's development was a desire that Tuolumne remain rustic; a retreat from—and contrast to—the much busier Yosemite Valley.

The Selected Action responds to the expressed desires of many stakeholders to retain the rustic character of Tuolumne Meadows while correcting a number of long-standing issues related to the need for better management of visitor use. By largely retaining the existing array of lodging, camping, and primary visitor services along with their location and character, the Selected Action best responds to the frequently expressed desire to keep Tuolumne Meadows like it is now. However, the Selected Action also responds to the need for improvements in parking and vehicle management to correct existing resource damage and prevent future impacts from occurring. As a result, the Selected Action will provide ample opportunities for family traditions to be maintained by ensuring that the simple beauty inherent to the Tuolumne Meadows experience can be passed from generation to generation.

In contrast, Alternative 1 removes both the Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp and greatly reduces the size of the Tuolumne Meadows campground. Alternative 3 significantly reduces the size of the lodge and makes a slight reduction to the capacity of the High Sierra Camp. Both of these alternatives fundamentally alter the visitor experience by further limiting opportunities to appreciate the peaceful environment of the meadows in the evening and nighttime hours. On the other end of the spectrum, Alternative 2 proposes an expansion to the Tuolumne Meadows campground while retaining all other visitor services (with the exception of the mountaineering shop). In addition to changing the look and feel of the Tuolumne Meadows area, the expansion of infrastructure and increase in visitor use associated with alternative 2 would pose challenges to maintaining adequate water flow in the Dana Fork.

Parking and Traffic Congestion

Parkwide surveys consistently show a very high level of satisfaction with the visitor experience in Yosemite. However, during periods of peak visitation, traffic congestion and limited access to parking can detract from the quality of the experience and interfere with the use and enjoyment of river values. All action alternatives address this problem by eliminating roadside parking and replacing it with designated parking in more appropriate locations. The amount and location of the replacement parking varies by alternative. Alternative 1 would reduce the availability of parking overall while alternative 2 would increase parking supply well beyond existing levels. Alternative 3 provides slightly less parking relative to current conditions and co-locates parking for the Parsons Memorial Lodge and Cathedral Lakes trailheads at the site of the existing visitor center. The Selected Action provides parking equivalent to current demand but locates it more strategically, allocating

separate parking areas for the trailheads accessing Parsons Memorial Lodge and Cathedral Lakes.

The Selected Action best addresses parking concerns by removing roadside parking and designating replacement parking in more appropriate locations. While the parking remedies of alternative 3 may be appropriate for that alternative, visitors would continue to use their cars to drive from the visitor contact station to the trailhead to Parsons Memorial Lodge (the most popular short hike in the area). The Selected Action remedies this situation by constructing a new, modest visitor contact station and parking lot directly across from the trailhead to the lodge. Thus, continued access to favorite pastimes in the rustic setting of Tuolumne Meadows is assured while visitor use is better managed and resource damage is repaired.

Operational Concerns

As reported in the *Final Tuolumne River Plan/EIS*, the bulk of the employee housing located in Tuolumne Meadows is substandard, as it does not meet NPS standards or modern health codes. Similarly, the wastewater treatment plant is several decades old and does not treat wastewater to contemporary standards. Additionally, the amount of water diverted from the Dana Fork is a concern, as water demand is highest when the stream flow is at its lowest. Finally, office space in the area is cramped and inadequate for the level of management required during the summer season.

All action alternatives in the *Final Tuolumne River Plan/EIS* address these operational concerns in the same way. All alternatives would improve housing, wastewater treatment, and the need for office space by upgrading housing and wastewater treatment systems to meet contemporary standards. The amount of housing, size of the new wastewater treatment system, and amount of office space vary by alternative in relation to the amount of use proposed and all facilities will be sited appropriately to protect river values. All alternatives have been designed to require water withdrawals of no more than 65,000 gallons per day or 10% of the Dana Fork's flow, whichever is less. Consequently, all action alternatives (including the Selected Action) would address existing operational concerns while protecting and enhancing river values.

Relationship to 1980 General Management Plan

Because the Tuolumne River was designated a Wild and Scenic River in 1984, four years after the 1980 GMP was published, the NPS was required to re-evaluate the actions called for in the GMP against the WSRA mandate to protect and enhance river values. The 1980 GMP includes five broad goals for the park: reclaim priceless beauty, allow natural processes to prevail, promote visitor understanding and enjoyment, markedly reduce traffic congestion, and reduce crowding. These five goals remain valid today and helped to inform the choice of the Selected Action. While some of the details of the GMP and the Tuolumne River Plan decisions regarding major public use facilities may differ, the overarching direction of the 1980 GMP—to reduce the development footprint, limit commercial facilities, reduce traffic congestion, and refocus on protecting and enhancing natural and cultural resources—is wholly consistent with and reflected in the Selected Action. Specific amendments to the 1980 GMP for Yosemite National Park from this decision can be found in Appendix E of the *Final Tuolumne River Plan/EIS*.

The Selected Action exhibits a high degree of consistency with the facility and development decisions in the GMP. For example, the lodge and wilderness center are retained in both plans. The GMP and Selected Action both reduce the size of the campground relative to 1980, but the Selected Action retains it at its current size (329 drive-in sites and seven group sites) while the GMP anticipated a somewhat larger facility (400 drive-in sites and 50 walk-in sites). Both plans retain Parsons Memorial Lodge, the McCauley cabin, and the Soda Springs enclosure. Both plans pull campsite development back from the river, and both the GMP and the Selected Action remove employee housing from wetland areas to protect river values. In addition, both the

Selected Action for the Tuolumne River Plan and the GMP upgrade wastewater treatment. Importantly, the Selected Action is grounded in an ecological restoration plan that will both reclaim the priceless beauty of the meadows and enable natural processes to prevail there.

The Selected Action will revise the 1980 GMP with regard to some public use facilities based on new information that surfaced with the designation of the Tuolumne Wild and Scenic River and establishment of the Yosemite Wilderness, both in 1984. In particular, new information regarding resource conditions has rendered some GMP actions as impractical and infeasible. For example, based on the facilities analysis in the *Final Tuolumne River Plan/EIS* (Chapter 7: Development of Lands and Facilities) the NPS determined that the fuel station/mountaineering store is not necessary for public use and will be removed and converted to parking; the 1980 GMP would have converted it to a store and grill. Rather than closing all of the A-loop in the campground, only the 21 sites within 100 feet of the Lyell Fork will be removed (and relocated elsewhere in the campground). As previously discussed, the Selected Action achieves the GMP goal of "markedly reducing traffic congestion" by eliminating roadside parking and constructing designated parking. Since the 1980 GMP, day use of Tuolumne Meadows has significantly increased. Consequently, the Selected Action will allow for about 400 more day users than the 1980 GMP, while still protecting river values and improving the visitor experience.

Conclusion

None of the above components of the decision can work in isolation to define the "best" choice for the future of the Tuolumne River corridor. A complex legal and social framework coupled with the river's dynamic natural setting required a thoughtful look at the comprehensive vision presented in each alternative. The NPS selected alternative 4 (the Selected Action) because it fully protects the water quality, free-flowing condition, and outstandingly remarkable values of the Tuolumne River while continuing to offer access and inspiration to millions of visitors each year. The Selected Action improves the "sense of arrival" to Tuolumne Meadows, facilitates significant ecological restoration of the meadows, provides access to and enjoyment of the Tuolumne River, and provides for continued family recreational experiences in a rustic setting. Most importantly, the Selected Action has been shaped by substantial and sustained public involvement. Changes to the preferred alternative that were made between the *Draft* and *Final Tuolumne River Plan/EIS*, such as moving some campsites at the Tuolumne Meadows campground and the kitchen/dining hall at Tuolumne Meadows Lodge away from the river's edge and allowing regulated whitewater boating in the Grand Canyon of the Tuolumne, were the direct result of this public engagement.

With regard to the specific factors contained in Section 1274(d) of the WSRA, the adoption of the Selected Action satisfies the WSRA requirements for a comprehensive management plan. The baseline condition for all river values is documented and a desired condition is established for each value. A proactive management approach is developed to maintain river value conditions at or above the desired condition with mandatory management actions to be implemented when a marginal decline in river value conditions is detected (Chapter 5: River Values and Their Management). In this way, the *Final Tuolumne River Plan/EIS* contains a proactive and aggressive program of river protection that responds to incremental change by arresting downward trends in conditions before they reach the point of adverse impact or degradation. This monitoring and management program is designed to be sensitive to changes in the condition of all river values, including changes caused by visitor use, and all aspects have been thoroughly peer-reviewed and revised accordingly prior to the issuance of the *Final Tuolumne River Plan/EIS*.

Future development of lands and facilities would be limited to locations and uses as specified in the Selected Action. The comprehensive analysis of existing and proposed facilities included in the *Final Tuolumne River Plan/EIS* (Chapter 7: Development of Lands and Facilities) provides the rationale for retaining certain facilities

in the river corridor and concludes that none of the facilities included in the Selected Action will cause adverse impact or degradation to any river value. Extensive ecological restoration will be conducted to ensure that river values are not only protected, but further enhanced with plan implementation.

User capacity is addressed throughout the river corridor with specific management approaches identified for each segment. For all river segments, the Selected Action sets "specific measurable limits on use" and provides for an "actual level of visitor use that will not adversely impact the [Tuolumne River's] ORVs" (Chapter 6: Visitor Use and User Capacity).[4] In particular, user capacity for Tuolumne Meadows has been thoroughly addressed in the planning process and will be accomplished by actively managing use to the level of available parking, eliminating roadside parking, limiting the numbers of visitors arriving by bus, and limiting overnight accommodations. Resource protection, development of lands and facilities, and user capacity will also be managed pursuant to existing NPS authorities in the Code of Federal Regulations (Title 36), the Superintendent's Compendium, and general NPS policies, such as those pertaining to wilderness and campground reservations. The combination of these elements will enable the NPS to administer the river in a manner that protects and enhances all river values while allowing for appropriate levels of use and development.

CHANGES MADE TO ALTERNATIVE 4

As noted above, minor changes have been made to the preferred alternative (alternative 4) since the release of the *Final Tuolumne River Plan/EIS* on March 14, 2014. These modifications are based on internal deliberations by park staff regarding the feasibility of operational constraints placed on the Glen Aulin High Sierra Camp. The primary changes are detailed below and integrated into the Selected Action. Depending on the nature of the change, either the environmental analysis for the No Action Alternative or the analysis for alternative 3 as presented in the *Final Tuolumne River Plan/EIS* discloses the likely effects of the Selected Action. The changes described below will not violate management standards nor will they contribute to the adverse impact or degradation of river values.

As described in alternative 4 of the *Final Tuolumne River Plan/EIS*, the temporary water line used to service the Glen Aulin High Sierra Camp would be removed and replaced by a micro-hydro unit when water flow produces insufficient pressure to capture the volume of water needed to supply the camp. At this time, the feasibility of installing a micro-hydro unit within the boundary of the potential wilderness addition has not been tested or determined to be a viable option. In the Selected Action, the NPS will retain the ability to use a temporary water line to acquire water during periods of low flow until a suitable substitute for this approach can be developed. Use of the water line will be on an as-needed basis, and it will be removed at the end of each season. The NPS will continue to explore a range of solutions for a reliable water supply for the camp.

Additionally, the temporary water lines and water tank in support of the NPS backcountry utilities camp/corral and the concessioner corral will continue to be used on a seasonal basis, pending development of other water delivery options. The temporary water lines represent a minor, site-specific impact to wilderness character in the vicinity of the Glen Aulin High Sierra Camp. As concluded in the environmental analysis for the *Final Tuolumne River Plan/EIS*, although detectable, the impacts are quite localized. Overall, the untrammeled, natural and undeveloped qualities of wilderness would remain well protected in the Tuolumne River corridor. The conclusions of the environmental impact analysis in the *Final Tuolumne River Plan/EIS* remain valid and are consistent with this modification.

[4] *Friends of Yosemite Valley v. Norton*, 348 *F.3d* 789 (9th Cir. 2003).

As part of the Selected Action, the NPS will continue to allow wood stoves to be used to heat visitor tent cabins at the Glen Aulin High Sierra Camp. The planning team erroneously assumed that firewood was transported to the camps throughout the summer season and that by eliminating the amenity, fewer stock would be needed for regular supply trips. The NPS has since verified that firewood is stocked at the beginning of the season as part of the camp opening process. Therefore, the original proposal to eliminate firewood would not have reduced hiker/stock conflicts to the extent assumed in the *Final Tuolumne River Plan/EIS*. Given this clarification, the NPS believes the continual provision of firewood will improve the visitor experience at the High Camp with little detriment to other recreational pursuits. The conclusions of the environmental impact analysis in the *Final Tuolumne River Plan/EIS* remain valid and are consistent with this modification.

As part of the Selected Action, the NPS adjusted the number of packstrings allowed to service the camp each week for resupply and operations. Focusing on stock use for resupply only, alternative 4 (the preferred alternative) as presented in the *Final Tuolumne River Plan/EIS*, would have reduced stock support by 3.7 strings per week relative to current operations. An underlying assumption was that approximately 1.5 strings per week were needed to pack firewood and support meals-only service. A reduction of another half string per week was attributed to the reduced camp capacity of 28 beds. The remaining 1.7 string per week reduction was attributed to unspecified gains in operational efficiencies.

Since the NPS published the *Final Tuolumne River Plan/*EIS, the NPS determined that firewood is packed in during camp set-up and is not an ongoing component of resupply trips. Therefore, the one-string reduction assumed to result from elimination of this service was not accurate, and eliminating firewood at the camp would not result in a substantive reduction in total stock use. In addition, further analysis regarding the "meals-only" service indicates that the concessioner is allowed to provide up to six meals per day for people who are not guests of the lodge. In contrast, more than 100 meals will continue to be provided to guests and employees each day. In light of the volume of food prepared for camp operations, the small amount of food associated with the "meals-only" service cannot be expected to generate a measurable reduction in stock use.

After gaining more insight into the operational requirements for a 28-bed camp, the NPS has chosen to modify the stock use restrictions included in the Selected Action. Given the four-year average of 5.7 strings per week for resupply of the Glen Aulin High Sierra Camp and applying a 12.5% reduction for the four-bed reduction in camp capacity equates to a season-long average of five strings per week for operation of the slightly smaller camp. The NPS believes this level of stock support is needed to adequately provide for camp operations at the present time, and the NPS will continue to work with the concessioner to identify other operational efficiencies to further reduce stock use in the future. These adjustments to stock restrictions in the Selected Action will allow the camp to remain fully functional while still imposing limits and reducing overall stock use which were important objectives of the preferred alternative in the *Draft* and *Final Tuolumne River Plan/EIS*.

The *Final Tuolumne River Plan/EIS* (pg. 8-114) states that the limit of two strings per week proposed in alternative 4 would reduce total stock use on the Glen Aulin trail by 43% (including private stock use commercial outfitter use, and NPS administrative use).[5] As adjusted, the stock restrictions imposed under the Selected Action will reduce total stock use on this trail by roughly 20% for an average season. Other limits on stock use included in alternative 4 include a ten-string limit for camp set-up and a nine-string limit for camp take-down. These limits are retained as part of the Selected Action. Finally, hiker/stock conflicts will still be reduced elsewhere in the Tuolumne River corridor under the Selected Action by discontinuing day rides on the Young Lakes trail, the area that currently receives the most concentrated use.

[5] "Stock use" is quantified as the number of animals passing a fixed point in the trail—traveling each direction—throughout the course of the day.

The slight increase in stock use under the Selected Action (in comparison to that proposed in alternative 4) is marginal relative to the total reduction in stock use that will occur within the Tuolumne River corridor when the plan is implemented. Overall, hiker/stock conflicts on the trail to Glen Aulin will be diminished and the visitor experience will be improved. Therefore, the conclusions of the environmental impact analysis in the *Final Tuolumne River Plan/EIS* remain valid and are consistent with this modification.

Alternative 4 of the *Final Tuolumne River Plan/EIS* proposed to co-locate the NPS stables at the site of the current concessioner stables, and it referenced a reduction in the number of concessioner stock to 25 animals (pg. 8-109). Given the adjustments made above, this estimate is no longer accurate, although the NPS believes the reduction in concessioner stock numbers will be of a sufficient quantity to allow NPS stock to be kept in the same location. The Selected Action will not set a limit on the number of stock to be held at the consolidated facility. Rather, the number of animals will be an outcome of the operational constraints already discussed. The Selected Action continues to co-locate the stable facilities and the conclusions of the environmental impact analysis in the *Final Tuolumne River Plan/EIS* remain valid and are consistent with this modification.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Council on Environmental Quality (CEQ) regulations implementing NEPA (Code of Federal Regulations 40:1505.2) and the NPS NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified. Environmentally preferable is defined as "the alternative that would promote the national environmental policy as expressed in NEPA section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

Section 101 of NEPA states that:

> It is the continuing responsibility of the Federal Government to …
>
> 1) *fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;*
> 2) *assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;*
> 3) *attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;*
> 4) *preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;*
> 5) *achieve a balance between population and resource use which would permit high standards of living and a wide sharing of life's amenities; and*
> 6) *enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.*

The Selected Action (alternative 4), on balance, best achieves these national environmental policy goals, and is identified as the environmentally preferable alternative. It has the least amount of impacts to the biological and physical environment; best protects, preserves, and enhances historic, cultural, and natural resources; and best supports diversity and variety of individual choice.

The No Action alternative would provide for diversity and variety of individual choice; however, it would not best fulfill any of the other requirements, particularly at Tuolumne Meadows, where increasing amounts of use would continue to adversely affect ecologically sensitive meadow and riparian areas, archeological resources, scenic values, visitor experience, visitor safety, and park operations. Additionally, aging utilities at Tuolumne Meadows and Glen Aulin would continue to pose risks to water quality under the No Action alternative.

All of the action alternatives would fulfill all of the above requirements to some degree. In addition, all of the action alternatives would fulfill these requirements somewhat equally. This would be accomplished through continuation of existing wilderness and resource management policies, ecological restoration of fragile meadow and riparian areas, protection of water quality, protection of archeological resources, and conformance with existing requirements under Executive Order 13514 to improve the sustainability of NPS operations and facilities. The alternatives would vary primarily in water consumption and related risks to water quality and habitat, protection of historic resources, and the diversity of recreational opportunities provided.

Alternative 1 would demolish and remove significant historic resources at Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp. It would also impose the most restrictions on diversity of visitor use in the most popular portions of the river corridor. Alternative 2 would provide outstanding, diverse recreational opportunities in the river corridor. However, the historic setting at Tuolumne Meadows would be altered to a greater extent than under any other alternative, and water consumption and associated risks to water quality would remain relatively high. This alternative would have the greatest potential for requiring future reductions in service, including reducing the capacities at the lodge and/or campground, to ensure that the level of water consumption remained protective of river flows. Alternative 3 would provide outstanding recreational opportunities similar to existing conditions and would retain the historic setting of Tuolumne Meadows, but like alternative 2, it would not reduce risks to water quality to the degree that would occur under the Selected Action.

In comparison, the Selected Action will strike a balance between maintaining the historic setting of the river corridor, maintaining a diversity of recreational opportunities, and allowing for extensive natural resource management at Tuolumne Meadows to restore natural ecosystem function to the extent possible. For these reasons, the Selected Action will best promote the national environmental policy per NEPA section 101, and is considered the environmentally preferable alternative. Specifically, it fulfills the responsibility of the NPS as a trustee of federal lands for future generations; assures that visitors, employees, and residents encounter safe and aesthetically pleasing surroundings; attains the widest range of beneficial uses without degrading the environment or posing risk to health and safety; preserves important historic, cultural, and natural aspects of our national heritage and environment, which supports diversity and individual choice; and achieves a balance between population and resource use while enhancing the quality of renewable resources.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

The NPS places a strong emphasis on avoidance, minimization, and mitigation of adverse impacts under NEPA and adverse effects under the National Historic Preservation Act. To protect natural, cultural, and social resources and the quality of the visitor experience, mitigation measures will be implemented as part of the Selected Action, and are included as Appendix A of this document. Mitigation measures will occur prior to, during, and after implementation of all proposed actions. Monitoring and enforcement programs will ensure proper and timely implementation of these measures. The NPS will obtain necessary federal and state permits required to undertake the specific actions described in the Selected Action; additional mitigation measures may be identified through those processes.

PUBLIC AND INTERAGENCY INVOLVEMENT

The NPS published a notice of intent to prepare an environmental impact statement in the *Federal Register* (71:131) on July 10, 2006. Public scoping was initiated for the *Tuolumne River Plan* on June 27, 2006, and the NPS accepted scoping comments through September 7, 2006. Committed to robust public involvement, the

NPS accepted comments at 10 public scoping meetings throughout California, three open houses in Yosemite Valley, two Gateway Partners meetings, one public site visit, and one all-tribes meeting. A total of 457 individuals or organizations responded, with a total of 4,023 discrete individual ideas.

Between the end of the scoping period and release of the draft plan and EIS, park staff engaged in a variety of public presentations, accepting comments at all of them. Park staff conducted thirteen "Planner for a Day" work sessions, seven socioeconomic workshops, a Yosemite Forum session, a two-day User Capacity Symposium, and dozens of open houses in Yosemite Valley. Park staff also distributed two workbooks, each to over 4,000 addresses, and received 550 responses.

The NPS distributed the draft plan and EIS beginning January 8, 2013 and the EPA's notice of filing was published in the *Federal Register* on January 18, 2013, triggering the start of the official public comment period. The NPS posted electronic copies of the *Draft Tuolumne River Plan/EIS* to the park's website on January 8, 2013 and hard copies and/or CDs of the document were distributed to individuals that requested them, as well as to congressional delegations, state and local elected officials, federal agencies, traditionally associated American Indian tribes and groups, organizations and local businesses, public libraries, and the news media. The NPS provided notice of the plan's availabllity for public comment via a press release distributed to a wide variety of news media and announcements placed on the park's website, online newsletters, printed newsletters, and local public libraries.

The *Draft Tuolumne River Plan/EIS* was on review for 70 days. During that time, park staff presented essential elements of the *Draft Tuolumne River Plan/EIS* at two webinars and six public meetings. These meetings consisted of an open house, presentation, and an opportunity to discuss the plan with park staff members and to provide comment. The park received 1,280 public comment letters: 410 letters from 373 individuals, 2 federal agencies, 1 state agency, 9 county agencies or commissions, 1 town or city government, 5 businesses, 10 conservation/preservation organizations, 8 recreational organizations, and one American Indian tribe and/or group. In addition, the NPS received 1 form letter from a conservation/preservation organization that was signed and forwarded by 870 individuals. The analysis of letters identified 1,632 discrete comments, from which 529 general concern statements were generated. The U.S. Environmental Protection Agency sent a comment letter on March 11, 2013, that rated the proposed project as "Lack of Objections," defined as no potential environmental impacts requiring substantial changes to the proposal.

Overall the major themes of the comments received included (in no particular order):

- comments both for and against retaining High Sierra camps in the river corridor, including Glen Aulin High Sierra Camp
- comments, both for and against, commercial and administrative stock use on trails
- comments on the impacts of stock use on visitor experience, both negative and positive
- clarifications requested for proposed encounter rate standards in wilderness
- requests to open some or all segments of the Tuolumne Wild and Scenic River to whitewater boating
- comments and requested clarifications regarding the amount and types of parking proposed at Tuolumne Meadows
- comments on the use of shuttles and public transit
- comments, both for and against, removing the public fuel station at Tuolumne Meadows
- comments against removing the mountaineering school at Tuolumne Meadows

- clarifications requested for water use and wastewater treatment at Tuolumne Meadows and suggestions for improvement

The U.S. Environmental Protection Agency published its Federal Register notification of the filing of the *Final Tuolumne River Plan/EIS* on March 14, 2014. The NPS posted electronic copies of the final plan to the park's website, and mailed over 700 CDs or hard copies of the document to agencies and individuals who requested copies, as well as congressional delegations, state and local elected officials, traditionally associated American Indian tribes and groups, organizations and local businesses, public libraries, and the news media. The NPS provided notice of the plan's availability via a widely distributed press release. The NPS also emailed or hard-copy mailed notice of the plan's availability to all those who commented on the Draft *Tuolumne River Plan/EIS*.

Consultation with American Indian Tribes and Groups

Traditionally Associated American Indian Tribes and Groups

Yosemite National Park maintains consultation relationships with seven American Indian tribes and groups that claim traditional cultural association with park lands and resources. This includes five federally recognized American Indian tribes (Bridgeport Paiute Indian Colony of California, Bishop Paiute Tribe, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of the Chukchansi Indians, and the Tuolumne Band of Me-Wuk Indians), and two American Indian groups (American Indian Council of Mariposa County, Inc. [also known as the Southern Sierra Miwuk Nation] and the Mono Lake Kutzadika'a). Consultation with federally recognized tribes is on a government-to-government basis.

The NPS consulted with American Indian tribes and groups having a cultural association with the Tuolumne River corridor throughout the development of the *Tuolumne River Plan*. Consultation included special meetings, conceptual workshops, and site visits. Consultation was initiated by the park's superintendent and American Indian liaison on July 6, 2005, at an annual All Tribes meeting. The agency formally requested information from the tribes for the protection of traditional cultural places. Consultation continued, and comments from the tribes were solicited, received, accepted, and considered, throughout the planning process. As necessary, consultation will continue through design and implementation phases of the plan.

Consultation and Communication with State and Federal Agencies

U.S. Army Corps of Engineers

The Clean Water Act (Public Law 92-500) requires federal land agencies to consult with the U.S. Army Corps of Engineers (Army Corps) regarding wetlands in the vicinity of proposed projects. The NPS consulted with the Army Corps regarding the *Final Tuolumne River Plan/EIS*, wetlands delineation, and permit requirements necessary to implement proposed actions in the plan, in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The NPS will serve as the lead agency on behalf of the U.S. Army Corps of Engineers for consultation with the SHPO, discussed below.

U.S. Fish and Wildlife Service

The NPS initiated consultation with the Fish and Wildlife Service in June 2006 and obtained lists of federal endangered and threatened species in the project area on a regular basis. The *Final Tuolumne River Plan/EIS* integrated an analysis of federally listed species directly into the EIS in lieu of a stand-alone Biological

Assessment. The EIS concluded that the Preferred Alternative may affect, but would not likely adversely affect, special status species in the Tuolumne River corridor. On March 5, 2014, the Fish and Wildlife Service concurred that for the purposes of the Record of Decision on the proposed action, the *Final Tuolumne River Plan/EIS* may affect, but is not likely to adversely affect federally listed species.

After release of the *Final Tuolumne River Plan/EIS*, the Fish and Wildlife Service posted two species on the Federal Register for listing under the Endangered Species Act: the Sierra Nevada yellow-legged frog (*Rana sierrae*) and the Yosemite toad (*Anaxyrus canorus*). The listing was published on April 29, 2014 and it becomes effective on June 30, 2014. The agency also proposed critical habitat within the Tuolumne River corridor for the two species. Potential impacts to these amphibian species and critical habitat, which were proposed as federally listed species at the time the *Final Tuolumne River Plan/EIS* was issued, were fully addressed in the plan.

Given this development following release of the *Final Tuolumne River Plan/EIS*, the NPS requested formal consultation with the Fish and Wildlife Service in response to the formal listing of the amphibian species. On June 20, 2014, the Fish and Wildlife Service provided a *Biological Opinion on the Tuolumne River Plan, Yosemite National Park, California, and the Threatened Yosemite Toad and the Endangered Sierra Nevada Yellow-legged Frog.* Terms and conditions from the Biological Opinion are included in Appendix A, Mitigation. Receipt of the Biological Opinion concluded formal consultation on the effects of the *Final Tuolumne River Plan/EIS* on the Yosemite toad and the Sierra Nevada yellow-legged frog.

U.S. Forest Service

The U.S. Forest Service administers the area from the Yosemite National Park boundary at Tioga Pass to the east (Inyo National Forest) and the Tuolumne Wild and Scenic River corridor west (downstream) of the NPS administered segments (Stanislaus National Forest). The park initiated communication with the Inyo and Stanislaus National Forests regarding the *Tuolumne River Plan* on June 22, 2006, and letters of notification were sent to the Inyo and Stanislaus National Forests on June 26, 2006. U.S. Forest Service representatives from Stanislaus National Forest participated in a workshop to discuss river values on December 7, 2005, and an informational meeting on September 6, 2006. The Forest Service was provided with review copies of the *Draft* and *Final Tuolumne River Plan/EIS*.

State Water Resources Control Board and Central Valley Regional Water Quality Control Boards

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are the regulatory boards within California's Environmental Protection Agency that derive their authority from Section 401 of the Clean Water Act and Section 13020 of the California Water Code. The SWRCB allocates rights to the use of surface water and, along with the regional boards, is charged with protecting surface, ground, and coastal waters throughout the state. The RWQCB issues permits that govern and restrict the amount of pollutants discharged into the ground or surface water, which includes regulating storm water during construction activities.

Yosemite National Park is under the jurisdiction of Regional Board 5, Central Valley, and will obtain necessary permits and/or certifications for construction activities from that board. If required, the NPS will file a Notice of Intent to discharge storm water and prepare and implement provisions of a Storm Water Pollution Prevention Plan to control run-off from construction activities. A notification letter was sent to SWRCB on June 26, 2006. The NPS provided a copy of the *Draft* and *Final Tuolumne River Plan/EIS* to the RWQCB, who in turn notified the NPS by phone that they will provide input as part of future permitting processes, as necessary.

Advisory Council on Historic Preservation and California State Historic Preservation Officer

Per the requirements in the 1999 *Programmatic Agreement Among the National Park Service at Yosemite, the California State Historic Preservation Office, and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations, and Maintenance, Yosemite National Park, California* (1999 PA) and consistent with 36 CFR 800.3 (b), the NPS initiated consultation with the State Historic Preservation Officer (SHPO) in 2006 and the Advisory Council on Historic Preservation (ACHP) in 2008 regarding the development of the *Tuolumne River Plan*. The NPS introduced the *Tuolumne River Plan* undertaking through written correspondence, and indicated the NHPA section 106 review process would be conducted in coordination with the NEPA review process. The ACHP and the SHPO were provided with review copies of the *Draft Tuolumne River Plan/EIS*. The SHPO and ACHP did not respond in their comment period was received during the Draft EIS public comment period, but on April 23, 2013, the SHPO requested a summary of consultation and public outreach and a summary of public and tribal comments related to NHPA. The NPS provided the requested materials and consulted with the SHPO throughout summer 2013. The NPS also provided the *Final Tuolumne River Plan/EIS* to the ACHP and the SHPO.

Through consultation, the SHPO agreed to application of standard mitigating measures per Stipulation VI of the 1999 PA for less complex projects that could avoid impacts or be addressed under the 1999 PA. The agencies will consult under the standard four-step process (36 CFR§ 800.3-6) for all other remaining actions with potential adverse effects that require either additional information or design efforts to avoid or minimize potential adverse effects. The specific actions and strategy were detailed in a letter to the SHPO on March 27, 2014. On May 9, 2014 the SHPO concluded that no further consultation is required prior to signing the Record of Decision for the Tuolumne River Plan. As necessary, consultation with the SHPO will continue when the NPS Implements specific components of the plan.

Local Governments

Gateway Communities

Local governments from gateway and neighboring communities have been extensively involved throughout the development of the *Draft* and *Final Tuolumne River Plan/EIS*. Stakeholders from gateway communities have been invited to public planning workshops, and park staff has attended quarterly Yosemite Gateway Partners meetings throughout the planning process. Official representatives from county boards of supervisors and other local government representatives have attended public and internal meetings and workshops related to the plan, and have provided comment during various phases of the planning process.

The Yosemite National Park superintendent, planning division chief, project managers, planners, and representatives from the Superintendent's Office of Public Involvement and Outreach also presented updates on the plan at gateway planning commission meetings, boards of supervisors meetings, and meetings of various community organizations interested in the planning effort.

San Francisco Public Utilities Commission (SFPUC)

The relationship between Yosemite National Park and the City and County of San Francisco began with passage of the Raker Act on December 6, 1913. Over the years, the NPS and the city have worked together to ensure that the provisions of the Raker Act are followed to preserve park resources in the Tuolumne River and Eleanor Creek watersheds. The primary city agencies involved in the Hetch Hetchy partnership are the SFPUC and its

subsidiary, Hetch Hetchy Water and Power.

The NPS has regularly attended the Upper Tuolumne River Stakeholders meetings at Moccasin and representatives of the SFPUC have been involved in the planning process since 2005. For example, representatives from the City and County of San Francisco participated in workshops with the Tuolumne River planning team to discuss river values on December 7, 2005, and to discuss a preferred alternative on February 25-27, 2008. Staff members also participated in numerous public planning workshops and presentations in Tuolumne Meadows. The SFPUC received copies of the *Draft* and *Final Tuolumne River Plan/EIS* and submitted a comment letter during the draft EIS public comment period, which was analyzed with other public comment. NPS staff also met with SFPUC representatives after the *Draft* and the *Final Tuolumne River Plan/EIS* were released.

CONCLUSION

When taking into account the requirements of the WSRA and other legal requirements, consideration of public and agency comments, and the capacity of the mitigation strategy to address potential environmental impacts of the Tuolumne River Plan, the Selected Action (modified alternative 4, as described above) provides the most comprehensive and effective method among the alternatives for meeting management objectives and national environmental policy goals. The Selected Action, as reflected in the analysis contained in the *Draft* and *Final Tuolumne River Plan/EIS*, will allow the NPS to protect and enhance river values while providing for the public use and enjoyment of those values. All aspects of the Selected Action will be undertaken and monitored under the direction of the Superintendent, Yosemite National Park, beginning as soon as practicable.

for Marshall

Christine S. Lehnertz, Regional Director

Pacific West Region, National Park Service

6/24/14

Date

APPENDIX A: MITIGATION MEASURES

The National Park Service (NPS) places a strong emphasis on measures to avoid, minimize, and mitigate potential impacts. The following mitigation measures were developed to protect natural, cultural, and social resources and the quality of the visitor experience during implementation of the *Tuolumne River Plan.* Mitigation measures are considered part of the project, and must occur prior to, during, and after project implementation.

Mitigation Measure	Responsibility	Critical Milestones
CONSTRUCTION MITIGATION MEASURES		
Prevent the introduction of exotic species in the project area and staging areas. Prior to entry into the park, steam-clean heavy equipment to prevent importation of non-native plant species. Tighten hydraulic fittings, ensure hydraulic hoses are in good condition [and replace if damaged), and repair all petroleum leaks. Ensure all earth moving equipment enters the Park free of dirt, dust, mud, seeds, and other potential contaminants. Ensure the park inspects all heavy equipment entering the park prior to commencing work.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Inspect project boundaries to ensure that impacts stay within the project area and do not escalate beyond the scope of the environmental impact statement. Ensure that the project conforms with applicable permits or project conditions. Store all construction equipment within the delineated work limits.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Implement compliance monitoring to ensure that the project remains within the parameters of National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) compliance documents.	Yosemite National Park, Contractor	Concurrent with project activities
Provide a project orientation for all construction workers to increase their understanding and sensitivity to the challenges of the special environment in which they will be working.	Yosemite National Park	Prior to and concurrent with project activities
If deemed necessary, demolition/construction work on weekends or federal government holidays may be authorized, with prior written approval of the Superintendent.	Yosemite National Park	Prior to and concurrent with project activities
Remove all tools, equipment, barricades, signs, surplus materials, and rubbish from the project work limits upon project completion. Remove all debris from the project site.	Yosemite National Park, Contractor	Upon completion of project activities
Prepare a Health and Safety Plan to address health and safety issues, compliance with OSHA standards, and other regulations relevant to contracted work. Submit the plan for NPS review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for construction activities to control surface run-off, reduce erosion, and prevent sedimentation from entering water bodies during construction, if required by federal and State permits. If prepared by a contractor, submit the SWPPP for park review and approval prior to construction. The plan will: • Include measures to control erosion, sedimentation, and compaction, and thereby reduce water pollution and adverse water quality effects. Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies. • To the extent possible, schedule the use of mechanical equipment during periods of low precipitation to reduce risk of accidental hydrocarbon leaks or spills. When mechanical equipment is necessary outside of low precipitation periods, use NPS– approved methods to protect soil and water from contaminants. • Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, and drainages. Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water Keep absorbent pads, booms, and other materials on site during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous material spills.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Develop and implement a comprehensive Spill Prevention/Response Plan that complies with federal and state regulations and addresses all aspects of spill prevention, notification, emergency spill response strategies for spills occurring on land and water, reporting requirements, monitoring requirements, personnel responsibilities, response equipment type and location, and drills and training requirements. Submit the spill prevention/response plan to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
Prepare a construction work schedule that minimizes effects on wildlife in adjacent habitats, and avoids periods of time with high levels of visitation. Submit the work schedule for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Supervisory construction personnel shall attend an Environmental Protection briefing provided by the park prior to working on site. This briefing is designed to familiarize workers with statutory and contractual environmental requirements and the recognition of and protection measures for archeological sites, sensitive habitats, water resources, and wildlife habitats.	Contractor	Prior to and concurrent with project activities
Develop a Communications Strategy Plan to alert necessary park and concessioner employees, residents and visitors to pertinent elements of the construction work schedule.	Yosemite National Park	Prior to and concurrent with

Mitigation Measure	Responsibility	Critical Milestones
		project activities
Identify locations of existing utilities prior to removal activity to prevent damage to utilities. Inform the NPS maintenance staff 10 working days prior to any ground disturbance. Inform the Underground Services Alert at least 72 hours prior to any ground disturbance. Construction-related activities will not proceed until the process of locating existing utilities is completed (water, wastewater, electric, communications, and telephone lines). The contractor will prepare an emergency response plan.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Promptly reconnect utility services that are interrupted because of construction activities and provide advance notification if utility service will be disrupted.	Yosemite National Park, Contractor	Concurrent with and following project activities
Provide proper and timely maintenance for vehicles and equipment used during construction to reduce the potential for mechanical breakdowns.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
HYDROLOGY AND WATER QUALITY		
Where working areas are adjacent to or encroach on live streams, construct barriers to prevent the discharge of turbid water in excess of specified limits.	Contractor	Prior to and concurrent with project activities
Stabilize all disturbed soil and fill slopes in an appropriate manner. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at project sites to ensure that the Yosemite toad or the Sierra Nevada yellow-legged frog do not get trapped, injured or killed. Plastic mono-filament netting or similar material must not be used at the project because individuals of these listed species may become entangled or trapped in it.	Contractor	Prior to and concurrent with project activities
Store equipment and materials away from all waterways.	Yosemite National Park, Contractor	Concurrent with project activities
Clearly delineate construction limits in the vicinity of wetlands with construction fencing	Contractor	Prior to and concurrent with construction activities
Ensure that waters are free of changes in turbidity that cause a nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits, as described in *The Water Quality Control Plan* for the Central Valley Regional Water Quality Control Board (CVRWQCB 1998]: ▪ Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units]NTUs), increases shall not exceed 1 NTU. ▪ Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%. ▪ Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs. ▪ Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%. In determining compliance with the limits above, apply appropriate averaging periods if necessary, provided that beneficial uses are fully protected.	Contractor	Prior to and concurrent with project activities
Contain wastewater contaminated with silt, grout, or other by-products from construction activities in a holding or settling tank to prevent contaminated material from entering watercourses.	Contractor	Concurrent with project activities
Remove hazardous waste materials generated during implementation of the project from the project site immediately.	Contractor	Concurrent with project activities
Dispose of volatile wastes and oils in approved containers for removal from the project site to avoid contamination of soils, drainages, and watercourses. Keep absorbent pads, booms, and other materials onsite during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous materials spills.	Contractor	Concurrent with project activities
Use silt fencing at drainages to prevent construction materials from escaping work areas.	Contractor	Concurrent with project activities
Incorporate trench plugs into new and abandoned utility corridors through meadow and wetland areas to prevent formation or continuation of groundwater conduits.	Yosemite National Park, Contractor	Concurrent with project activities
Design surface drainage facilities to transport runoff in a non-erosive manner.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.	Yosemite National Park, Contractor	Prior to, concurrent with and following project activities
Collect and cover material from construction work, and avoid depositing it where it could be eroded and carried to tributaries or the river by surface runoff or high stream flows.	Contractor	Concurrent with project activities
Minimize disturbance area at the banks of drainages. Salvage excavated materials for replacement	Contractor	Concurrent with

Mitigation Measure	Responsibility	Critical Milestones
after construction. The banks of drainages will be restored to their pre-existing contours.		project activities
At utility corridors, provide adequate drainage to prevent surface water or subsurface seepage from saturating the subgrade utility corridor.	Contractor	Concurrent with project activities
Drain and flush all pumps, tanks, live wells, buckets and other containers that might carry water contaminated with exotic plants and animals, such as the zebra mussel, prior to bringing equipment into the park.	Contractor	
VEGETATION AND WETLANDS (INCLUDING SPECIAL STATUS PLANTS)		
Employ measures to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetlands (see Construction, above]. Ensure all actions are consistent with state water quality standards and Clean Water Act Section 401 certification requirements.	Yosemite National Park, Contractor	Prior to project activities
Avoid heavy equipment use in wetlands to the extent possible. Place heavy equipment used in wetlands on mats, or take other similar measures to minimize soil and plant root disturbance and to preserve the preconstruction topography of the wetland.	Yosemite National Park, Contractor	Prior to concurrent with project activities
Whenever possible, place excavated material on an upland site. When this is not feasible, stockpile excavated material on a temporary basis on filter cloth, mats, or other semi-permeable surface, or take comparable measures to ensure that underlying wetland habitat is protected. Stabilize material with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.	Yosemite National Park, Contractor	Concurrent with project activities
Remove temporary soil stockpiles in wetlands in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing topography and soil configurations. Restore wetland soil, hydrology, and native vegetation as soon as practicable.	Yosemite National Park, Contractor	Concurrent with project activities
Ensure that a Park Botanist oversees placement of construction fencing to avoid impacts to sensitive plants and wetlands.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Conduct preconstruction surveys to identify special status species within the construction disturbance zone. If special-status plant species are identified within the construction disturbance zone, the project manager will work with the Park Botanist to avoid impacts.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Delineate, clearly mark, and ensure all wetland-related permits are in place prior to work. Perform activities in wetlands in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Minimize shade impacts to the extent practicable when designing boardwalks and similar structures.	Yosemite National Park, Contractor	Prior to concurrent with project activities
Ensure that all earth moving equipment and hand tools enter the park free of mud or seed-bearing material to prevent the introduction of non-native plants. The NPS will inspect all equipment prior to use on the project. Map and treat noxious weeds prior to construction. Certify all seeds and straw material as weed-free. Ensure that imported top-soil is weed-free. The NPS will approve sources of imported fill material that will be used within the top 12 inches of the finished grade. Monitor and treat invasive plants for three years post-construction.	Yosemite National Park, Contractor	Prior to, concurrent with and following project activities
Install temporary fencing (black silt fencing or orange construction fencing) around the entire project area to protect natural surroundings]including trees, and root zones) from damage. Avoid fastening ropes, cables, or fences to trees.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Use native seed mix or seed-free mulch to minimize surface erosion and the introduction of noxious weeds.	Contractor	Concurrent with project activities
Contractor will develop a Revegetation Plan in conjunction with the park's Resources Management and Science Division, to be approved prior to construction activities.	Yosemite National Park, Contractor	Prior to project activities
Salvage and store topsoil, and reuse in restoration efforts in accordance with NPS policies and guidance. Store topsoil for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.	Contractor	Concurrent with project activities
Where actions could impact wetlands, wetland restoration proposals must, at a minimum, provide one-for-one (1:1) wetland function replacement (i.e., no net loss of wetland functions).	Yosemite National Park	Prior to project activities
Delineate wetlands in project areas of Lyell Canyon prior to implementation of the TRP.	Yosemite National Park	Prior to project activities
WILDLIFE (INCLUDING SPECIAL STATUS WILDLIFE)		
General: Provide information to the contractor regarding protection of special status species wildlife at the project briefings and provide contractor specifications and Best Management Practices to avoid activities that are destructive to wildlife and habitats. Project Manager will consult with the park biologist to schedule construction activities with seasonal consideration of wildlife lifecycles to minimize impacts during sensitive periods. Construction personnel will adhere to park regulations concerning food storage and refuse management. All food will be properly stored during the work day and will be removed from the site	Yosemite National Park, Contractor	Concurrent with and following project activities

Mitigation Measure	Responsibility	Critical Milestones
at the end of each work day.		
For the Federally-listed Sierra Nevada yellow-legged frog and Yosemite toad: Proposed Critical Habitat (PCH) exists for Yosemite toads (Unit 5 Tuolumne/Cathedral), and Sierra Nevada yellow-legged frogs (SNYLF Subunit 2N Unicorn Peak) in the Tuolumne Meadows area based on suitable habitat and prior observations confirming species presence. Due to the recent listings (June 2014) of these species and their associated PCH, a qualified wildlife biologist will review existing proposed projects within these PCH units prior to project implementation. If a determination is reached that individuals or habitats could be affected by project activities (adverse as well as beneficial), consultation with the U.S. Fish and Wildlife Service will be initiated.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Conduct pre-work surveys to identify areas that toads may occupy such as mammal burrows, cover areas under rocks within the project area, and flag areas in advance to be avoided. Minimize potential impacts by delaying the project start dates until toad breeding is nearly complete (typically two weeks from the start of breeding), if necessary, per wildlife biologist guidance.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at project sites to ensure that the Yosemite toad or the Sierra Nevada yellow-legged frog do not get trapped, injured or killed. Plastic mono-filament netting or similar material must not be used at the project because individuals of these listed species may become entangled or trapped in it. If appropriate, the National Park Service shall move Yosemite toads and Sierra Nevada yellow-legged frogs from within the Tuolumne Wild and Scenic River Comprehensive Management Plan site to a safe location if they are in danger. Each Yosemite toad and Sierra Nevada yellow-legged frog encounter shall be treated on a case-by-case, but the general procedure is as follows: (1) leave the non-injured Yosemite toad or Sierra Nevada yellow-legged frog alone if it is not in danger; or (2) move the Yosemite toad or Sierra Nevada yellow-legged frog to a nearby safe location if it is in danger. These two actions are further described below. When a Yosemite toad or Sierra Nevada yellow-legged frog is encountered within the Tuolumne Wild and Scenic River Comprehensive Management Plan site, the first priority is to stop all activities in the surrounding area that have the potential to result in the harassment, injury, or death of the individual. Then, the situation shall be assessed by a National Park biologist in order to select a course of action that will minimize adverse effects to the individual. Avoidance is the preferred option if a Yosemite toad or Sierra Nevada yellow-legged frog is not moving and it is not moving or using a burrow or other refugia. A National Park Service biologist shall inspect the area and evaluate the necessity of fencing, signage, or other measures to protect the animal. If appropriate, the Yosemite toad or Sierra Nevada yellow-legged frog shall be allowed to move out of the hazardous situation on its own volition to a safe location. The animal may not be picked up and moved based on it not moving fast enough or it is an inconvenience for activities associated with rehabilitation or operation. This only applies to situations where a Yosemite toad or a Sierra Nevada yellow-legged frog is encountered on the move during conditions that make their upland travel feasible. This does not apply to individuals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the animal move outside the immediate area. The Yosemite toad or Sierra Nevada yellow-legged frog shall be captured and moved by hand only when there is no other option to prevent harassment, injury, or death. If appropriate habitat is located immediately adjacent to the capture location then the preferred option is relocation to that site. The Yosemite toad or Sierra Nevada yellow-legged frog should not be moved outside of the radius it would have traveled on its own. Under no circumstances shall a Yosemite toad or Sierra Nevada yellow-legged frog be relocated to non-National Park Service property without the landowner's written permission. Only National Park Service biologists may capture Yosemite toads or Sierra Nevada yellow-legged frogs. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within two hours before and during periods when the biologist is capturing and relocating the Yosemite toad or Sierra Nevada yellow-legged frog. If the animal is held for any length of time in captivity, they shall be kept in a cool, dark, moist environment with proper airflow, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting shall not contain any standing water, or objects or chemicals that may injury or kill a Yosemite toad or Sierra Nevada yellow-legged frog. To avoid transferring disease or pathogens between sites during the course of translocating Yosemite toads or Sierra Nevada yellow-legged frogs, Park biologists shall use the following guidance for disinfecting equipment and clothing. These guidelines are adapted from the *Declining Amphibian Population Task Force's Code* which can be found in their entirety at: *http://www.open.ac.uk/daptf/*. The reasonable and prudent measure, with its implementing terms and conditions, is designed to	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take described for the Yosemite toad and the Sierra Nevada yellow-legged frog in the Amount or Extent of Take section is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The National Park Service must provide an explanation of the causes of the take as soon as possible and review with the Service the need for possible modification of the reasonable and prudent measure.		
For owls: Limit the effects of light and noise on adjacent habitat. No outdoor construction activities are to occur between dusk and dawn, to eliminate the need for outdoor construction lighting, and to avoid disruption of mating, nesting, or foraging owls. A wildlife biologist will conduct standardized Great Gray Owl surveys prior to implementing project-related activities on the western end of Tuolumne Meadows. The NPS will use the survey protocol by Keane et al. (2011) that improves on the Beck and Winter (2000) protocol. The NPS will conduct 2 broadcast surveys in one season for which a 77% probability of detection is expected.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
For other birds: A wildlife biologist will conduct bird surveys and review current owl reports to determine whether special status species are present and may be mating, nesting, or foraging in the project vicinity. If trees are to be trimmed or removed, the biologist will first survey (within 4 days prior to any such work) to determine whether there are any nests present, and advise as to whether the activity must be delayed to ensure that sensitive species such as nesting migratory birds are protected and not disrupted. If nesting birds are observed (during bird surveys, or discovered by workers) that are not special-status species, the project manager will notify the park wildlife biologist who will recommend steps to avoid undesirable impacts to the nest or young.	Yosemite National Park, including park wildlife biologist	Prior to construction
For bats: A park biologist will conduct bat surveys in the vicinity]for maternity colonies] and in fall (for potentially roosting/hibernating bats), and will provide specific directions for avoiding their disturbance if they are found. If bats are detected, the specific area will be protected and work on that particular area will be delayed until the bats vacate or can be excluded from the area in a manner that does not adversely affect their survival or that of their young. If surveys conducted immediately prior to construction do not reveal any bat species present within the project area, then the action will begin within three days to prevent the destruction of any bats that could move into the area after the survey.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
For mountain beaver and Sierra Nevada red fox: Adhere to 401/404 permits to prevent increased turbidity in the creek from occurring during construction activities. Design water outputs to dissipate water slowly, and avoid concentrated outflows to the meadow or tributaries. Maintain continuous water flows and water quality for tributaries of the wild and scenic river. Only minimal and temporary holding or diversion of water for immediate and specific construction work will be allowed. If water is retained during construction, the containment will include wildlife escape ramps and the containment will be inspected in the morning before beginning work and at the end of the day to ensure that no animals have become trapped.	Yosemite National Park	Prior to and concurrent with project activities
FEDERAL AND STATE PERMIT REQUIREMENTS		
Apply for and comply with all federal and state permits required for construction-related activities, including the California Regional Water Quality Control Board and the U.S. Army Corps of Engineers.	Yosemite National Park	Prior to project activities
AMERICAN INDIAN TRADITIONAL CULTURAL RESOURCES AND PRACTICES		
If cultural resources are discovered, stop work immediately and report the discovery to the Contracting Officer. Stop Work: Cease all activities in the area of discovery and protect the resources discovered. In the event the discovery represents human remains or any objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the NPS will follow procedures outlined in NAGPRA regulations. This will require a stoppage of work in the area of work for a minimum of 30 calendar days. In the event of an inadvertent discovery of Cultural Resources, be prepared to stop work and continue in other areas. See 'Archeological Resources', below.	Yosemite National Park, Contractor	Prior to and concurrent with project activities.
Culturally associated tribes will be given notice prior to ground disturbing activities at the project site and may be present at the project site to monitor ground disturbance during construction.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Consult with culturally associated American Indian tribes and groups throughout the project to avoid or mitigate damage to American Indian traditional resources.	Yosemite National Park	Prior to, concurrent with and following project activities
HISTORIC RESOURCES		
The contractor shall comply with the following historic resource protection measures:	Yosemite	Prior to and

Mitigation Measure	Responsibility	Critical Milestones
▪ Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation. ▪ Ensure that supervisory personnel are present when work begins and during its progress. ▪ Protect existing materials during installation of temporary protections and construction. Not deface or remove existing materials. ▪ Obtain Contracting Officer approval prior to attaching temporary protection to existing construction. ▪ Protect landscape work adjacent to or within work areas as follows: -Provide barriers to protect tree trunks. -Bind spreading shrubs. -Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time. -Set scaffolding and ladder legs away from plants. ▪ Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. ▪ Notify Contracting Officer immediately of drains or systems that are stopped or blocked. Do not begin work until the drains are in working order. ▪ Provide a method to prevent solids including stone or mortar residue from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed on corresponding project. ▪ Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.	National Park, Contractor	concurrent with project activities
Ensure that all treatments within historic landscapes are consistent with the *Secretary of The Interior's Standards for the Treatment of Historic Properties.*	Yosemite National Park, Contractor	Prior to project activities
Design all new construction within historic districts and landscapes or adjacent to historic sites to be compatible in terms of architectural elements, scale, massing, materials, and orientation.	Yosemite National Park, Contractor	Prior to project activities
Before any actions take place, qualified staff will conduct research to document historic resources and existing conditions in the field.	Yosemite National Park, Project Manager	Prior to project activities
When narrowing the Great Sierra Wagon Road roadbed]which is wider than the historic width due to increased parallel trails], maintain a minimum width of 10 feet in order to convey its historic use as a wagon road. Maintain the current alignment of historic remnants of the Great Sierra Wagon Road. Once work is completed on the Great Sierra Wagon Road, document changes to the historic road.	Yosemite National Park, Contractor	Prior to, concurrent with, and after project activities
Ensure that modified structures (e.g. headwalls) are compatible with the materials, size, and scale of the historic features. Salvage and reuse stone masonry components from headwalls of original historic culverts where feasible. Number headwall stones for reconstruction, if applicable. Locate granite that matches the color and texture of the existing stone masonry granite. Conduct work using qualified stonemasons.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Build new culverts to complement existing historic culverts along Tioga Road, with simple, understated stone masonry headwalls and discrete, low profiles. Match the stone used in the headwalls as closely as possible to the color, texture and dimensions of the stone found in other historic culvert headwalls found at Tuolumne Meadows. Retain materials, construction style, and workmanship that matches the character of historic culverts.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Ensure that rehabilitated turn-outs retain key historic characteristics such as views and vistas established in the original design of the Tioga Road.	Yosemite National Park, Contractor	Prior to project activities
Investigate the ditches that lead from and drain many of the area's kettle ponds and document as necessary if they are historic features, before filling and regrading.	Yosemite National Park, Contractor	Prior to project activities
Salvage historic materials to be removed as follows: ▪ Clean salvaged historic items. ▪ Pack or crate items after cleaning. Identify contents of containers. ▪ Store items in a secure area until delivery to the NPS. ▪ Transport items to storage area approved by Contracting Officer. ▪ Protect items from damage during transport and storage. ▪ Do not dispose of items removed from existing construction without prior written consent of Contracting Officer.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Handle historic materials to be removed and reinstalled as follows: ▪ Clean and repair historic items to functional condition adequate for intended reuse. ▪ Pack or crate items after cleaning and repairing. Identify contents of containers. ▪ Protect items from damage during transport and storage.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
▪ Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.		
Photo-document completed work on historic properties. Amend the information in the existing consensus determination of eligibility for the Tioga Road Historic District as necessary	Yosemite National Park	After project activities
ARCHEOLOGICAL RESOURCES		
Train all members of the restoration/construction teams in proper handling of inadvertent discovery of archaeological resources. Training will include information regarding the types of archeological materials that are likely present in the specific project area, how to identify archeological materials, and the procedures for contacting the appropriate parties in the event that archeological materials are encountered during restoration/construction activities. All restoration/construction personnel are required to participate in the training, and written guidelines will be prepared and distributed to aid in identification of archeological materials and to inform workers of the procedures to follow in case of a discovery or potential discovery. If buried archeological resources such as flaked stone or groundstone, historic debris, building foundations, midden soils or human bone are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within a 100-foot radius of the find until a qualified archeologist can assess the significance of the find. Inadvertent discoveries will be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource will be assessed for its eligibility for listing on the National Register in consultation with the SHPO and representatives of traditionally associated American Indian tribes and groups (if it is an American Indian archeological site), and a determination of the project effects on the site will be made. If the site will be adversely affected, a treatment plan will also be prepared as needed during the assessment of the site's significance. Assessment of inadvertent discoveries may require archeological excavations and/or archival research to determine resource significance. Treatment plans will fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects. If human skeletal remains are encountered, protocols under federal and state law will apply. All work shall stop in the vicinity of the discovery, and the find will be secured and protected in place. The appropriate county coroner and Park Archeologist will both be immediately notified. If a analyses determine that the remains are American Indian, and that no further coroner investigation of the cause of death is required, the coroner will then be required to contact the NAHC (pursuant to Section 7050.5]c) of the California Health and Safety Code) and the County Coordinator of Indian Affairs. The remains will also be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent discoveries).	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Management actions involving moderate to severe ground disturbance (trail reroutes or trail construction; excavations for subsurface utilities; redevelopment of the campgrounds; removal of infrastructure and/or facilities, construction of buildings, structures; expansion of roads; decompaction and plant salvage) within or adjacent to the boundaries of known archeological sites shall be preceded by intensive surface survey and/or controlled subsurface testing, as determined appropriate given past studies and findings. Initial limited testing shall be conducted in the area(s) proposed for ground disturbance, to first determine if the presence of site components can be verified. If so, the methods of achieving the proposed action may be modified and/or relocated, if possible. If effects could not be avoided, archeological treatment measures will be site-specific and contingent on previous studies' results and the level of work proposed.	Yosemite National Park, Contractor	Prior to project activities
Ensure that a professional archeologist fences archeological sites with orange hazard fencing. Brief all project personnel to stay out of areas with sensitive archeological resources.	Yosemite National Park, Contractor	Prior to project activities
A Government provided Archeological Monitor, and as necessary, Native American Monitor, will observe all ground-disturbing site work, including construction of temporary facilities at all culturally sensitive areas, from a safe location mutually agreed on by Contractor, Contracting Officer and Monitors. As new ground is broken, Monitors will examine excavated materials, using construction layout centerline and perimeter staking as a reference point to record locations of findings. Monitoring may also be included as part of a treatment plan for individual resources following initial testing, as per above. Prior to construction, mark with flagging all sensitive cultural resources to be protected within the project area identified per the requirements of the plans and specifications. Proper placement of flagging shall be verified by the Contracting Officer. Upon verification, erect necessary fencing to identify and protect cultural resources from disturbance. Do not begin ground-penetrating work such as excavation, trenching, drilling, or stump and root removal in culturally sensitive areas without the presence of Archeological Monitor, and if required,	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
Native American Monitor. The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis. If the monitor determines that any portion of the proposed action could have an adverse effect on the site, alternative methods of accomplishing the action shall be discussed with the restoration personnel. Restoration activities within site boundaries shall be conducted using manual tools rather than mechanized equipment whenever possible, and no stock animals or wheeled vehicles used for transport of workers and tools shall be allowed within 10 meters of the known site boundary. If Archeological Monitor or Native American Monitor discovers resources, immediate relocation of the work to a non-sensitive area may be required to allow Monitors to take soil samples and record resources. While Monitors are documenting resources in sensitive areas, Contractor shall relocate work to non-sensitive areas. If an Archeological Monitor requires access to a construction area the contractor shall furnish safe access, free from recognized hazards, to enable the monitor to complete his/her duties. This will commonly involve trench access when soil sampling is deemed necessary by the Archeologist. If resources are discovered while Monitors are absent, stop work immediately and report the discovery to the Contracting Officer. Stop Work: Cease all activities in the area of discovery and protect the resources discovered. In the event the discovery represents human remains or any objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the NPS will follow procedures outlined in NAGPRA regulations. This will require a stoppage of work in the area of work for a minimum of 30 calendar days. In the event of an inadvertent discovery of Cultural Resources, be prepared to stop work and continue in other areas. The Contractor shall plan, schedule, and execute the work to prevent stoppages at one area from stopping all work at the construction site.		
DUST ABATEMENT MEASURES		
Cover and/or seal truck beds and stockpiles to minimize blowing dust or loss of debris.	Contractor	Concurrent to project activities
Limit truck and related construction equipment speeds in active construction areas to a maximum of 15 miles per hour and strictly adhering to park regulations and posted speed limits in other areas while inside park boundaries.	Contractor	Concurrent to project activities
Maintain adequate dust suppression equipment and use clean water to control excess airborne particulates at staging areas, active construction zones, and unpaved roads leading to/from active construction areas.	Contractor	Concurrent with project activities
EMERGENCY NOTIFICATION MEASURES		
Develop an emergency notification plan that complies with park, federal, and state requirements and allows contractors to properly notify park, federal, and/or state personnel in the event of an emergency during construction activities. This plan will address notification requirements related to fire, personnel, and/or visitor injury, releases of spilled material, evacuation processes, etc. The emergency notification plan will be submitted to the park for review/approval prior to commencement of construction activities.	Yosemite National Park	Prior to project activities
HAZARDOUS MATERIALS MEASURES		
Prepare an Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan to address hazardous materials storage, spill prevention and response. Submit the Plan shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Store and use all hazardous materials in compliance with federal regulations. Keep all applicable Materials Safety Data Sheets on site for inspection.	Contractor	Concurrent with project activities
Hazardous or flammable chemicals are prohibited from storage in staging areas, except for substances identified in the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan. Immediately remove hazardous waste materials from the project site in approved containers.	Contractor	Concurrent with project activities
Comply with all applicable regulations and policies during the removal and remediation of asbestos, lead paint, and polychlorinated biphenyls, as applicable.	Contractor	Concurrent with project activities
SOUNDSCAPES		
Ensure that all construction equipment has functional exhaust/muffler systems.	Contractor	Concurrent with project activities
Submit a construction work plan/schedule that minimizes construction-related noise in noise-sensitive areas to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
Use hydraulically or electrically powered construction equipment, when feasible.	Contractor	Concurrent with project activities
Locate stationary noise sources as far from sensitive receptors as possible.	Contractor	Concurrent with project activities
Limit the idling of motors except as necessary (e.g., concrete mixing trucks).	Contractor	Concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
To the extent possible, perform all on-site noisy work above 76 A-weighted decibels (dBA) (such as the operation of heavy equipment) between the hours of 8:30 a.m. and 5:00 p.m. to minimize disruption to nearby park users.	Contractor	Concurrent with project activities
SCENIC RESOURCES PROTECTION MEASURES		
Fence construction staging areas and construction activity areas to visually screen construction activity and materials.	Contractor	Concurrent with project activities
Consolidate construction equipment and materials to the staging areas at the end of each work day to limit the visual intrusion of construction equipment during nonwork hours.	Contractor	Concurrent with project activities
Conduct contrast analysis for any proposed structures	Yosemite National Park	In the design and proposal phase
TRAFFIC CONTROL AND VISITOR PROTECTION MEASURES		
Provide protective fencing enclosures around construction areas, including utility trenches, to protect public health and safety.	Contractor	Concurrent with project activities
WASTE MANAGEMENT MEASURES		
Require construction personnel to adhere to park regulations concerning food storage and refuse management.	Yosemite National Park, Contractor	Concurrent with project activities
Properly secure trash during the workday and remove all trash from site at the end of each workday.	Yosemite National Park	Concurrent with and following project activities

Tuolumne Wild and Scenic River Comprehensive Management Plan/EIS: Section 7 Determination

In 1984, Congress designated the Tuolumne as a Wild and Scenic River to protect the river's free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 USC 1271). This designation gives the Tuolumne River special protection under the Wild and Scenic Rivers Act (WSRA). Section 7(a) of WSRA requires managing agencies to conduct a rigorous and consistent process to protect the free-flowing condition of the Tuolumne River when a proposed *water resources project*[1] triggers a review, as described in Chapter 4 of the *Tuolumne Wild and Scenic Final Comprehensive Management Plan and Environmental Impact Statement* (*Tuolumne River Plan*).

The preferred alternative in the *Tuolumne River Plan* proposes several federally funded actions that will be located within the bed and banks of the Tuolumne River or its tributaries, triggering additional review under section 7(a) of the Wild and Scenic Rivers Act. Proposed actions within the river corridor are: (1)Remove riverbank riprap near the Tuolumne Meadows Campground A-loop, (2) Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks (3) Install temporary fencing, natural obstructions, and/or deer fencing to allow vegetation to establish and (4) Improve, replace, and add new culverts under the Tioga Road at Bud Creek and Unicorn Creek in Tuolumne Meadows. The *Tuolumne River Plan* also calls for improvements of the Tioga Road bridge at Tuolumne Meadows to mitigate ponding effects during periods of high flows. The NPS will conduct a separate, subsequent environmental compliance process for the Tioga Road bridge, including a separate Section 7 determination.

Authority

The authority for this determination is found in section 7(a) of the Wild and Scenic Rivers Act (Public Law 90-542, as amended, 16 United States Code [USC] 271-1278). Section 7 states that

> *No department or agency of the United States shall assist by loan, grant, license or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreation, and fish and wildlife values present in the area on the date of designation of a river as a component of the national wild and scenic rivers system.*

Methodology

Potential actions within the river corridor will be evaluated as follows for their potential to have direct and adverse effects on free-flowing condition, water quality, and the outstandingly remarkable values (ORVs) identified for the river using the following process, as adopted from Interagency Council guidelines (2004 IWSRCC):

- Define the context of the project – purpose and need, geographic location, duration, magnitude and

[1] A water resources project is any dam, water conduit, powerhouse, transmission line, or other works project under the Federal Power Act, or other developments, that would affect the free-flowing character of a wild and scenic or congressionally authorized study river. In addition to projects licensed by the Federal Energy Regulatory Commission, water resources project may include dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction projects, bank stabilization projects, channelization projects, levee construction, boat ramps, fishing piers, and activities that require a section 404 permit from the U.S. Army Corps of Engineers.

2) **Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks.** The NPS will use bioengineering techniques to stabilize riverbanks that exhibit human-caused accelerated erosion throughout sub-alpine meadows in the Tuolumne River area. Examples of bioengineering techniques include willow hydrodrilling, brush layering, insertion of willow wattles, and anchoring logs to secure soils and accrete sediment. To establish willows on riverbanks, cuttings will be taken from established plants and placed deeply into the soil. Hydrodrilling is a system used to create deep holes to plant willow cuttings. A hydro-drill is a pump that creates a high-powered stream of water, the size of a hose, which creates deep holes for willow cuttings. Brush layering is the technique of laying willows on horizontal benches that follow natural river contours. Willows may also be bundled into wattles and partially buried and anchored along riverbanks. These techniques, along with the placement of anchor logs, and intensive planting and seeding of native site-specific vegetation, will promote sediment accretion, and minimize further riverbank loss. If restoration work is proposed within Wilderness, the NPS will complete a Minimum Requirement Analysis for bank stabilization projects.

3) **Install temporary fencing, natural obstructions, or deer fencing to allow establishment of native riparian vegetation.** These measures will protect fragile riverbank vegetation from trampling, allowing newly planted or impacted vegetation to establish. Temporary exclosures will allow willow regeneration and protect willows from deer browsing.

4) **Existing culverts are located on two tributaries to the Tuolumne River (Budd Creek and Unicorn Creek) to facilitate water flow under the Tioga Road. In addition to being located on tributaries to the Tuolumne River, these culverts are located within the Tuolumne River corridor. The culverts will be increased in size and number to better accommodate peak runoff.**

The effects of water resources actions within the Tuolumne River corridor are outlined in Table 1.

Table1. Effects of Proposed Water Resources Actions within the Tuolumne River Corridor

Effects on Within-Channel Conditions	Effects on Riparian and Floodplain Conditions	Effects on Upland Conditions	Effects on Existing Hydrological and Biological Processes
Remove riverbank riprap near the Tuolumne Meadows Campground A-loop			
The action will restore the river channel to natural configuration.	Existing rip-rap prevents some flood flows from reaching portions of the floodplain. The action will restore natural floodplain processes and allow establishment of riparian vegetation.	Existing campsites in the floodplain will be relocated to upland areas within campground boundaries. Upland conditions will be largely unaffected	The action will restore the ability of the channel to inundate the river floodplain in localized areas and/or make minor course changes.
Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks			
The action will reduce the potential for accelerated streambank erosion. This is likely to restore more natural within-channel attributes such as channel geometry, form, and water quality parameters such as turbidity.	The action will reduce the potential for accelerated streambank erosion and provide a foundation to establish natural riparian vegetation along the riverbank.	Upland conditions will be largely unaffected.	The action will reduce the potential for accelerated streambank erosion, allowing restoration of natural channel attributes and providing a foundation to establish riparian vegetation and habitat.

DETERMINATION OF NO IMPAIRMENT

TUOLUMNE WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN

June 2014

This document evaluates and determines whether the Selected Action in the *Final Tuolumne Wild and Scenic River Comprehensive Management Plan/Environmental Impact Statement Record of Decision* (*Final Tuolumne River Plan/EIS*) will result in impairment to park resources or values. This evaluation is directed by the interrelated provisions of the National Park Service (NPS) Organic Act of 1916 (16 U.S. Code, Section 1) and the NPS General Authorities Act of 1970 (16 U.S. Code Section 1A-1), including 1978 amendments. Per NPS *Management Policies* (2006) Section 1.4.5, an impact is more likely to constitute impairment when it affects resources and values whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park
- identified in the park's general management plan or other relevant NPS planning documents as being of significance

An impact is less likely to constitute impairment when it is an unavoidable result of an action that is necessary to preserve or restore the integrity of park resources or values, and its effects cannot be further mitigated. Impairment may result from the activities of park visitors, NPS administrative staff, concessioners, and contractors, and sources or activities outside a park. Park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- additional attributes encompassed by the specific values and purposes for which the park was established

DESCRIPTION OF PARK PURPOSE AND SIGNIFICANCE

In 1864, the U.S. Congress passed landmark legislation that granted to the State of California the Yosemite Valley and the Mariposa Big Tree Grove (Act of June 30, 1864, 13 Stat., 325). Both areas were set aside ". . . for public use, resort, and recreation . . . inalienable for all time." In fall of 1890, Congress created Yosemite National Park, directing the Secretary of the Interior to provide for the "preservation from injury of all timber, mineral deposits, natural curiosities, or wonders ... and their retention in their natural condition (26 Stat. 650)." The act excluded Yosemite Valley and the Mariposa Big Tree Grove, leaving them under the jurisdiction of the

state of California. A Joint Resolution of congress in June 1906 accepted the transfer of Yosemite Valley and the Mariposa Big Tree Grove from the state of California to the federal government, subject to the provisions in the 1890 act.

AMENDING THE 1980 YOSEMITE GENERAL MANAGEMENT PLAN

In 1980, the National Park Service completed a *General Management Plan* (1980 GMP) for Yosemite. The plan has five broad goals :

- Reclaim priceless natural beauty
- Markedly reduce traffic congestion
- Allow natural processes to prevail
- Reduce crowding
- Promote visitor understanding and enjoyment

In 1984, the California Wilderness Act (98 Stat. 1632) officially designated segments of the Tuolumne River in Yosemite National Park as components of the national wild and scenic rivers system. The designated segments of the river include 54 of the 62 miles of the river within the boundaries of Yosemite National Park, including both of the river's primary forks, the Dana and Lyell forks, but excluding the 8-mile segment through Hetch Hetchy Reservoir.

NO IMPAIRMENT DETERMINATIONS FOR THE SELECTED ALTERNATIVE

Under guidelines promulgated by the NPS National Leadership Council, Memorandum L7615 (2310), dated October 31, 2011, non-impairment determinations must include a specific discussion for each impacted resource that is analyzed in detail within the *Final Tuolumne River Plan/EIS*. The discussion must include an explanation as to why the Selected Action's impacts will not result in impairment. Impairment findings pertain only to park resources and values, and are not necessary for visitor experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, or similar topics or concerns. The impact topics that are evaluated for purposes of this impairment determination are as follows:

Geology and Soils

The Selected Action does not materially affect the world-renowned geological formations of Yosemite National Park. Plan implementation will not require the import or removal of substantial amounts of rock or other earth products. Park soils will be minimally affected where restoration efforts or parking area improvements are planned as fill material is removed from previously-developed areas (such as road shoulders where vehicles currently park in Tuolumne Meadows) and re-deposited where needed. The NPS will deploy signage, fencing, and formal access points to direct visitors to established routes and trails, and away from sensitive soils. Decompaction of native soils in trampled areas, restoration of hydrologic processes, and restoration of native vegetation associated with facility removal will restore native soil health. Reductions in packstock use and designation of formal stock campsites in Lyell Canyon will reduce disturbance to native soils. The Selected Action will result in localized, long- and short-term, minor to moderate, adverse impacts related to construction, and local, long-term, minor to moderate, beneficial impacts with respect to soil resources in the Tuolumne River corridor.

In summary, impacts to soil resources will be avoided or minimized to the extent possible. While some localized

construction-related adverse effects to soil resources will occur, these effects will not impair the resource to the point that the park's purpose, mission, or significance cannot be fulfilled.

Hydrology, Water Quality, Floodplains and

Restoration actions will decompact soils, restore natural hydrologic flows, and re-vegetate streambanks on the Tuolumne River. Drinking water withdrawals will be capped at 10% of the river's flow or 65,000 gallons per day, whichever is less, thereby preserving in-stream flows. Improvements to the water delivery system will reduce leaks and consequent demand for water removals. Due to these actions, the Selected Action will have local, long-term, moderate, beneficial impacts on hydrology.

Installation of two new composting toilets at Glen Aulin along with removal of the flush toilet will reduce the risk to water quality from potential failure of the leach mound at that location. Construction of a new tertiary-system wastewater treatment plant in Tuolumne Meadows will significantly reduce the potential risk to water quality associated with a possible failure of the existing 40-year old plant or the more recently-installed wastewater line crossing the meadow. Stabilization of "Little Blue Slide" will reduce or eliminate this source of sediments into the river. Closure of the public fuel station will eliminate related risks to water quality. Denuded riparian and meadow vegetation will be restored and informal trails eliminated, leading to reduced erosion. A lower level of stock use will reduce the potential for fecal contamination. Water quality in the Tuolumne River is already excellent; these actions will protect and enhance that quality. Due to these components, the Selected Action will have local, long-term, moderate, beneficial impacts on water quality.

No new development will occur within the 100-year floodplain. The Selected Action will relocate several facilities from ordinary high-water areas and the 100-year floodplain, including: (1) the concessioner employee housing behind the store and grill, (2) three guest cabins and all employee tent cabins at Tuolumne Meadows Lodge, (3) the campground entrance road, and (4) 21 A-loop campsites. These actions will remove about half of the development currently in the floodplain. For these reasons, the Selected Action will have local, long-term, minor to moderate, beneficial impacts on floodplains. Overall, there will be no impairment of hydrologic, water quality, or floodplain resources associated with the Selected Action of the Tuolumne River Plan.

Vegetation and Wetlands

The Selected Action will restore approximately 171 acres of meadow and riparian communities (including 17.9 acres of palustrine emergent wetlands, 0.8 acre of palustrine forested wetlands, 1.3 acres of palustrine scrub-shrub wetlands, and 1.1 acres of riverine wetlands), and 2.9 acres of upland communities. New development (primarily at the sites of the new visitor contact station and of new employee housing) will disturb up to 28.1 acres of native upland communities. Restoration actions will: (1) restore meadow and riparian areas, (2) improve and restore hydrologic function, (3) restore ecological integrity throughout the corridor, (4) eliminate roadside parking and associated trampling, (5) remove and restore informal trails, and (6) guide visitor use onto established trails. These actions are elements of a comprehensive restoration plan to improve the ecological function of Tuolumne Meadows. Existing natural resource management actions, such as the removal of nonnative invasive plants, will continue. Additional actions benefitting wetlands and vegetation include:

- Removing facilities within 100 feet of the Tuolumne River, including the dining hall and kitchen at the lodge as well as 21 campsites at the campground
- Establishing an opening date for stock grazing in Lyell Canyon
- Reducing overall stock use on trails in the corridor

- Moving all concessioner housing out of wetland environments to drier upland areas
- Moving the Cathedral Lakes trailhead to an upland area
- Continued working with the San Francisco Public Utilities Commission to establish water releases from O'Shaughnessy Dam that more closely mimic natural flows, such as seasonal inundation of wetlands in Poopenaut Valley in years when such flow regimes would naturally occur

Adverse impacts from these actions will be associated with active construction or ecological restoration, and will be local, short-term, and minor or negligible. There will be local, long-term, moderate, adverse impacts on vegetation communities from construction of some facilities. In general, visitor use will remain consistent with current levels but be better managed. Considering all components of the Selected Action that affect wetlands and vegetation, there will be long-term moderate beneficial impacts on native vegetation and wetlands, and short-term minor adverse impacts on upland vegetation at Tuolumne Meadows. Overall, there will be no impairment of vegetation or wetland resources associated with the Selected Action of the Tuolumne River Plan.

Wildlife

The Selected Action contains many components that will improve habitat quality for aquatic, riparian-dependent, and meadow-dependent wildlife. When combined with the restoration actions common to all the alternatives, up to 174 acres of meadow, riparian, upland forest, and floodplain habitats will be enhanced or restored. The Selected Action includes measures to enhance the ecological complexity of riparian and aquatic habitat throughout Tuolumne Meadows, minimize water withdrawals, improve water quality, and reduce disturbance from stock use. Notable actions include the following:

- Remove facilities in targeted areas near the Tuolumne River and restore riverbanks, meadows, and riparian habitat
- Restore riparian vegetation throughout Tuolumne Meadows
- Enhance meadow, riparian, and river hydrologic function, complexity, and connectivity
- Improve the free flow and water quality of the Tuolumne River
- Eliminate concessioner stock day rides and limit resupply trips for Glen Aulin, to reduce noise, human presence, stock presence, vegetation trampling, soil compaction, and risks to water quality, and reduce the potential for impacts from brown-headed cowbirds on native bird species
- Regulate the timing, location, and amount of commercial pack stock use in Lyell Canyon

Some areas of habitat may be lost by actions intended to improve visitor use and facilities. In addition, construction activities will result in both short-term and long-term, local, adverse impacts on wildlife. Adverse impacts associated with restoration activities will be limited to the construction or restoration phase and will be local and short term and can be mitigated. The collective long-term impacts of ecological restoration actions, and construction of new facilities located outside of the floodplain and sensitive habitats. will be localized and regionally, long-term, moderate, and beneficial. The quality, quantity, and integrity of habitat in the Tuolumne River corridor will be improved under the Selected Action, and there will be no impairment of wildlife resources.

Special-Status Species

Ecological restoration will result in beneficial impacts on the subalpine meadow ecosystem due to the restoration of surface and subsurface hydrologic flows and the restoration of vegetation, including riparian

vegetation. Ecological restoration will have a beneficial impact by improving habitat quality and decreasing fragmentation for special-status species including amphibians, mammals, and birds that rely on the subalpine meadow ecosystem for foraging, breeding, and nesting.

Eliminating concessioner stock day rides and limiting resupply trips for Glen Aulin will reduce noise, human presence, stock presence, vegetation trampling, soil compaction, and risks to water quality, as well as the potential impact of brown-headed cowbirds on native bird species. Similarly, regulating the timing, location, and amount of commercial pack stock use in Lyell Canyon will improve conditions for special-status species. There will be no effect on bighorn sheep critical habitat.

Adverse effects under the Selected Action will be associated with the active construction or restoration and will be local, short term, and minor or negligible. With the recent listing of the Yosemite toad and Sierra Nevada yellow-legged frog on the Endangered Species Act, the NPS will continue to consult with the U.S. Fish and Wildlife Service to ensure compliance with the act. Overall, the Selected Action will not result in impairment of special-status species in the Tuolumne River corridor.

Air Quality

Under the Selected Action, air quality in the Tuolumne River corridor is expected to remain good, with occasional localized effects from campfires in the campground. Lower portions of the river corridor will continue to receive occasional air pollution transported in from areas west and north of the park. In Tuolumne Meadows, construction activities are expected to generate fugitive dust emissions with possible evaporative emissions from paving activities. Mitigation measures will reduce the potential for short-term, adverse impacts associated with construction emissions to the extent feasible. With the application of mitigation, short-term, negligible to minor, adverse impacts from construction are anticipated. The Selected Action will result in both local short-term minor adverse impacts on air quality due to construction-related activity and local long-term minor beneficial impacts on air quality. These construction-related minor adverse impacts on air quality will not rise to the level of impairment of air quality resources in Yosemite.

Scenic Resources

The Selected Action will enhance the natural appearance of riverbanks, meadows, and riparian vegetation due to actions in the comprehensive restoration program. Trampling, bare soils, and social trails will be eliminated. These actions will improve the scenic quality and views of the river and meadows in the vicinity of restoration areas. The elimination of roadside parking in the meadows will substantially improve views in that area, although some of the replacement parking lots will remain easily visible. Removal of the public fuel station will improve scenic resources in that area of Tuolumne Meadows. Views from scenic vista points will be improved by removing encroaching or conifer trees from foreground areas. There will be a local long-term minor adverse impact on the natural scenery at Tuolumne Meadows associated with redevelopment of housing, the wastewater treatment plant, and the relocation of the visitor contact station. The new visitor contact station and new designated parking area south of Tioga Road will be visible from some key observation points. However, the new parking area will be less visible than the existing roadside parking that it will replace. Tents at the Glen Aulin High Sierra Camp will be replaced with colors that blend more harmoniously with the surrounding landscape.

New facilities or structures in established areas of prior development will be designed according to NPS design guidelines and will be subject to a contrast analysis during the design process, ensuring that scenic resources

are protected and enhanced. Collectively, these actions will protect most of the scenery in the river corridor, and reduce the adverse impacts associated with informal roadside parking and lodgepole encroachment into scenic vistas, resulting in a local long-term minor to moderate beneficial impact on scenic resources. There will be no impairment of scenic resources associated with the Selected Action of the Tuolumne River Plan.

Historic Buildings, Structures and Cultural Landscapes

There are five National Register eligible historic districts in the area of potential effect for the Tuolumne River Plan: the Tuolumne Meadows Historic District (consensus determination of eligibility, 2007), the Soda Springs Historic District (consensus determination of eligibility, 2007), the Tioga Road Historic District (consensus determination of eligibility, 2011), the Glen Aulin High Sierra Camp Historic District (consensus determination of eligibility, 2004) and the Tuolumne Meadows High Sierra Camp Historic District (consensus determination of eligibility, 2004). In addition, the following buildings and structures are listed on the National Register of Historic Places:

- Tioga Pass Entrance Station: including Tioga Pass comfort station and entrance gates
- Great Sierra Wagon Road
- Parsons Memorial Lodge (designated a National Historic Landmark in 1987)
- McCauley Cabin
- Soda Springs Cabin
- Tuolumne Meadows Ranger Station and Rest Room: including the old visitor contact station (not current contact station) and three rustic comfort stations at Tuolumne Meadows campground
- Mess Hall and Kitchen, Bunk Houses, Toilet and Shower Room, Tuolumne Meadows: including the CCC mess hall, shower house, and four bunkhouses at Road Crew Camp

The Tuolumne River Plan identifies those actions with adverse effects on historic properties that will be addressed either through the standard 4-step process (36 CFR Part 800) or through use of standard mitigating measures identified the 1999 Programmatic Agreement Among the National Park Service at Yosemite, the California State Historic Preservation Office, and the Advisory Council on Historic Preservation Regarding Planning, Design, Construction, Operations, and Maintenance, Yosemite National Park, California, (1999 PA, as amended in 2014). In addition to the standard mitigation measures identified in the 1999 PA, the plan prescribes mitigation measures identified through consultation with the SHPO's office. Historic properties affected include:

- **The Tioga Road Historic District.** There will be an adverse effect to the historic district related to modification or removal of historic turnouts and removal or modification of masonry headwalls for culverts. These adverse effects will be minimized by retaining turnouts in the same locations as historic turnouts where possible, salvaging and reusing masonry materials from the original historic culvert headwalls, and ensuring that new or modified features use historically compatible materials and design consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The historic design, spatial organization, and natural setting of Tioga Road will remain unaffected.
- **The Great Sierra Wagon Road.** The road passes through the Tuolumne Meadows Historic District, including Soda Springs, and is considered a contributing element to the district. The road will retain its local significance in engineering, industry, and transportation. There will be an adverse effect on contributing circulation features due to roadbed modifications to improve hydrologic flows through the meadow. This adverse effect will be minimized by maintaining the current alignment of the roadbed,

maintaining a minimum width of 10 feet to convey its historic use as a wagon road, applying standard mitigation for culverts as described above, and documenting changes once work is complete.

- **The Tuolumne Meadows Historic District (Including the Soda Springs Historic District and Tuolumne Meadows High Sierra Camp Historic District).** The majority of historic features that contribute to the Tuolumne Meadows Historic District will be unaffected under the Selected Action. The historic design and spatial organization of the Tuolumne Meadows Historic District will be altered by the addition of a new developed area and new formal trail connections south of Tioga Road. The integrity of the historic district will be retained through careful maintenance of existing historic features within the natural setting of Tuolumne Meadows and its surrounding subalpine landscape. The general pattern of development throughout Tuolumne Meadows and the historic relationship between the natural and built environment will be largely retained. Restoration of a more naturally-functioning meadow and riparian ecosystem and the removal of roadside parking, will enhance the views and vistas that contribute to the setting and character of the Tuolumne Meadows Historic District. The historic design, spatial organization, and natural setting of these eligible historic districts will remain unaffected.

  Soda Springs and its association with outdoor recreation and environmental preservation will be retained. The characteristic design style of the Soda Springs, which reflects rustic architecture and naturalistic landscape architecture design principles that seek to integrate and harmonize development within its natural setting will also be retained.

Additional NEPA compliance and/or consultation under the standard four step process of the National Historic Preservation Act (36 CFR Part 800) is required to address potential adverse effects to historic properties associated with the expansion of the ranger station, alteration of the causeway leading to the Tuolumne River bridge, potential relocation of the Tuolumne Meadows Lodge kitchen/dining hall away from the river, rehabilitation of the campground and historic comfort stations, modification of the current visitor center, and rehabilitation of 11 contributing employee tent cabins. The NPS will facilitate additional consultation and/or compliance for these projects as project details and specifications develop. All treatments for historic properties as well as new construction will be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and mitigation measures listed in the Appendix A of the Record of Decision for the Tuolumne River Plan.

In summary, while some adverse effects to historic properties will occur, these effects will not impair the resource to the point that the park's purpose, mission, or significance cannot be fulfilled. Impacts to historic properties have been avoided or minimized to the extent possible, and further consultation will continue for a subset of actions to avoid, minimize, and mitigate actions involving historic properties.

Archeological Resources

There are potential adverse effects on individual archeological sites within the Tuolumne Meadows Archeological District associated with the Selected Action. Components of the Selected Action have the potential to result in impacts to sub-surface prehistoric and historic-era archeological resources through implementation of ground-disturbing construction activities, ecological restoration activities, and removal of facilities. The potential for disturbance to some archeological sites throughout the Tuolumne Meadows area will decrease with elimination of roadside parking, elimination of informal trails, and consolidation of visitor use in designated locations and pathways away from sensitive locations. However, there is the potential for adverse effects on up to seven class I sites, six class II sites, two class III sites, and two class IV sites within the

Tuolumne Meadows Archeological District. Actions could result in short-term exposure of site soils to erosional forces, displacement of artifacts, and diminished integrity of horizontal and vertical site patterning. Some of these impacts would be associated with ecological restoration activities; in many cases, restoration techniques can be modified to avoid impacts on individual archeological sites.

Additional project-specific information is required for a number of actions to determine whether adverse effects to historic properties can be avoided. These actions include expansion of the ranger station, alteration of the causeway leading to the Tuolumne River bridge, relocation of the Tuolumne Meadows Lodge kitchen/dining hall away from the river, rehabilitation of the campground and historic comfort stations, modification of the current visitor center, removal of the gas station, and rehabilitation of 11 contributing employee tent cabins. The NPS will facilitate additional consultation and/or compliance for these projects as project details and specifications develop.

Archeological testing will be conducted to formally determine the individual eligibility of each archeological site (if not already determined) where potential disturbance is likely. The NPS will institute avoidance, minimization and/or mitigation measures in consultation with the California State Historic Preservation Officer. All treatments for archeological sites will involve close consultation with traditionally associated American Indian tribes and groups to ensure these treatments incorporated native concerns, issues, and perspectives.

The Selected Action will result in no adverse effects to archeological resources in wilderness. In wilderness, the elimination of concessioner stock day rides, reductions in commercial stock use, reductions in the level of pack stock use for resupply of the Glen Aulin High Sierra Camp, and restrictions on the locations of pack stock camping and grazing areas in Lyell Canyon will reduce the potential for impacts to archeological sites.

While there are potential adverse effects to archeological resources, these effects will not rise to a level that would affect the use of archeological resources in the park to provide information on human demographics, paleoenvironmental change, cultural chronology, prehistoric economic systems, settlement patterns, sociocultural change, or western hemisphere obsidian studies. Effects to archeological resources will not impair the resource to the point that the park's purpose, mission, or significance cannot be fulfilled. Impacts to archeological resources will be avoided or minimized to the extent possible, and further consultation will continue for a sub-set of actions to determine how this can best be accomplished.

American Indian Traditional Cultural Resources

In the Tuolumne River corridor, traditional cultural resources of value to American Indians include:

- the Tuolumne River water and springs along the corridor, particularly Soda Springs, which are considered sacred and healing
- ceremonial, traditional, and medicinal plants and fungi that have traditional use and association with places
- unique geologic features with ancestral stories associated with spiritual ancestors
- an American Indian trail system still in use today, connecting places of cultural importance
- archeological sites important to American Indian cultural history and/or important people, many of which have been continuously in use for thousands of years
- the setting and solitude for sacred and ceremonial activities
- visually intact landscapes that provide cultural continuity with the past

Adverse effects to these places of importance to American Indians could result from ground disturbance to archeological sites, as described in the previous section. The addition of a new formal parking area and a visitor contact station south of Tioga Road could affect the surrounding landscape and the associated serenity and feeling of Tuolumne Meadows. In addition, recreational boating could have a potential adverse effect on places of spiritual and cultural significance to American Indians.

Additional project-specific information is required for a number of actions to determine whether adverse effects to archeological sites can be avoided. The NPS will facilitate additional consultation and/or compliance for these projects as project details and specifications develop. All treatments for archeological sites will be in accordance with stipulations in park-specific programmatic agreements and will involve close consultation with traditionally associated American Indian tribes and groups to ensure these treatments incorporate American Indian concerns and issues.

The Selected Action will not result in impairment of American Indian traditional cultural resources (including tribally-identified, eligible, and listed National Register properties). Traditional use sites and features important for maintaining cultural and spiritual traditions throughout the Tuolumne River corridor would not be altered. American Indians would continue to have access to places of spiritual, historical, medicinal, and cultural importance along the Tuolumne River.

FINDING

The Final Tuolumne River Plan/EIS establishes river boundaries and segment classifications, identifies and evaluates river values, prescribes a visitor use and user capacity management program, analyzes land uses and facilities, and includes other required elements of a comprehensive management plan, as guided by the Wild and Scenic Rivers Act. Through the Selected Action, the NPS will implement a program of work to restore the ecological vitality of the Tuolumne River corridor and other park resources that have been damaged or compromised in the past. Restoration activities will be guided by the natural and cultural resource-specific actions and monitoring.

With implementation of the Selected Action, there are no foreseeable impacts that will result in unacceptable impacts to any park resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified in the 1980 Yosemite General Management Plan or other relevant NPS planning documents as being a significant resource.

Based upon the analysis contained in the Final Tuolumne River Plan/EIS and associated science and scholarship, consultation required under section 106 of the National Historic Preservation Act, consultation with other agencies, input from subject-matter experts and others with relevant knowledge or experience, and with consideration of the results of civic engagement and public involvement, it is the Superintendent's professional judgment that implementation of the Selected Action will result in no impairment of park resources and values.

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